

**Final Report: Air-Ground Training and Feedback
System (AGTFS) for Low Intensity Conflict**

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August 1996

United States Army Research Institute for the Behavioral and Social Sciences

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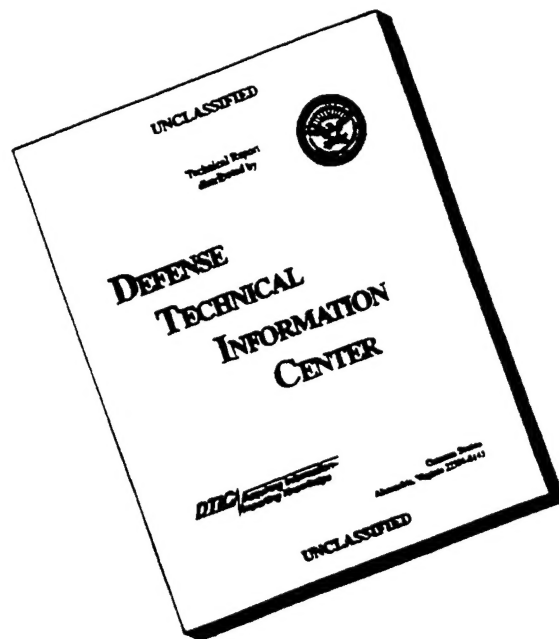
REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington DC 20503.

1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE August 1996	3. REPORT TYPE AND DATES COVERED Final Report 06/30/93 - 09/29/94
4. TITLE AND SUBTITLE Final Report: Air-Ground Training and Feedback System (AGTFS) for Low Intensity Conflict			5. FUNDING NUMBERS MDA903-92-D-0075-0016 2131 ROI MIPR-FM&P funds
6. AUTHOR(S) James T. Root C.L. Vermilyea James A. Huffman (PRC, Inc.)			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) BDM FEDERAL INC. DOD CENTER MONTEREY BAY 400 GIGLING ROAD SEASIDE, CA 93955			8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. ARMY RESEARCH INSTITUTE FOR THE BEHAVIORAL AND SOCIAL SCIENCES 5001 EISENHOWER AVENUE ALEXANDRIA, VA 22333-5600			10. SPONSORING/MONITORING AGENCY REPORT NUMBER Contractor Report 96-74
11. SUPPLEMENTARY NOTES The COR is Michael R. McCluskey. This report is published to meet legal and contractual requirements and may not meet ARI's scientific or professional standards for publication.			
12a. DISTRIBUTION/AVAILABILITY STATEMENT APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.			12b. DISTRIBUTION CODE
13. ABSTRACT (Maximum 200 words) The purpose of this study is to identify the critical synchronizing aspects of air-ground operations and assist in the development of methods that will enhance operational readiness and the combat effectiveness of joint close air support operations in a Low Intensity Conflict. The Air-Ground Training Feedback System (AGTFS) developed through this effort provides performance assessments that may be used to enhance training and support analysis of doctrinal, organizational, training, material and leadership issues such as OPTEMPO requirements for readiness. The issue of joint close air support was approached with the intent of developing a system for improving training which would lead to enhanced CAS effectiveness and reduced probability of fratricide. Through this effort an AGTFS was developed and some systemic issues that distract from effective joint close air support were uncovered. The AGTFS addressed the issue through three elements: process measures, outcome measures, and the database structure. This system allows for the continuous feedback to the CAS community of lessons learned and potential remedies. Five recommendations.			
14. SUBJECT TERMS (CAS) Close Air Support, (TACP) Tactical Air Control Party, Process Measures, Outcome Measures, (JRTC) Joint Readiness Training Center, Database, (LCM), (SCM), (CCM)			15. NUMBER OF PAGES
			16. PRICE CODE
17. SECURITY CLASSIFICATION OF REPORT UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT UNCLASSIFIED	20. LIMITATION OF ABSTRACT UNLIMITED

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CONTRACT #: MDA 903-92-D-0075
DELIVERABLE #: 0016-01-0016AF
December 13, 1994

FINAL REPORT:

**AIR-GROUND TRAINING AND FEEDBACK SYSTEM (AGTFS)
FOR LOW INTENSITY CONFLICT**

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December 13, 1994
U.S. Army Research Institute

FINAL REPORT: AIR-GROUND TRAINING & FEEDBACK SYSTEM (AGTFS)

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EXECUTIVE SUMMARY

The purpose of this study is to identify the critical synchronizing aspects of air-ground operations and assist in the development of methods that will enhance operational readiness and the combat effectiveness of joint close air support operations in a Low Intensity Conflict. The Air-Ground Training Feedback System developed through this effort provides performance assessments that may be used to enhance training and support analysis of doctrinal, organizational, training, materiel, and leadership issues such as OPTEMPO requirements for readiness. This document is the final report in support of Army Research Institute Contract MDA903-92D0075 and is designed to supplement a parallel effort focused on joint close air support in the mid to high level of conflict.

The Air-Ground Training Feedback System contains two primary components: process measures and outcome measures. Process measures focus on the *why it happened* aspects of the close air support mission. To do this, the process measures address critical events and actions that must be accomplished to ensure the effective application of JCAS. Outcome measures are designed to identify *what happened* by keying on a variety of effectiveness factors such as battle damage assessments and specific JCAS contributions to the overall battle.

Process measures were developed to provide an analytical tool for determining why JCAS outcomes were, or were not, effective. Conceptually, this effort focused on the procedures and information flow required to put the correct ordnance on the correct target at the correct time. To do this successfully, both the ground and air components in the JCAS effort needed to know a certain amount of information and take specific actions. As a practical matter, the volume of information and the number of actions was likely to be overwhelming if each discrete item was identified independently. Therefore, the research focused on those tasks which were absolutely essential to employ close air support effectively.

The development of these critical tasks, or process measures, took several steps. The first step was to identify the flow of events necessary to operationalize JCAS in support of a ground maneuver mission. Once this general event sequence was defined, it was possible to identify the key players and how they fit into the overall event scheme. Next, it was necessary to identify and define what specific information and actions were required of each of these elements. The functional relationships between components were then analyzed to determine the synchronizing nodes among them.

Outcome measures were developed to provide a specific assessment of JCAS effectiveness on a mission by mission basis. Since there is no air to air combat at the Joint Readiness Training Center (which was used as the tactical "laboratory" for this study), the outcome measures only assess air-ground engagements. However, since the JRTC lacks the level of instrumentation necessary to derive empirical data from engagements, only subjective assessments are possible. Outcome assessments only focus on overall, end-of-mission factors which address a final level of effectiveness. The data requirements are designed to identify specifically what happened in three areas: Lethality, Survivability, and Contribution.

The Lethality factor is an empirical measure that assesses the number of enemy forces lost to friendly JCAS. The Survivability measure is an assessment of friendly aircraft lost to enemy ground fire. The Contribution measure consists of five sub-components: Mission, Enemy, Troops, Terrain, and Time. These factors serve as modifiers for the casualty exchange ratios derived from the Lethality and Survivability measurements by incorporating mission effectiveness assessments.

The close air support database was designed to provide a central collection point for JCAS data derived from field site training missions. The database prototype was developed to facilitate for the user the capabilities of its three main elements: data collection, data manipulation, and data access. Data collection involves the actual gathering of information from the training sites and its entry into the database. Data manipulation addresses the capability of sorting the gathered information within the database into usable formats. Data access involves the ease with which the information can be extracted from the database, both immediate and long term, and its potential utility.

The database structure provides a tool for organizing and synthesizing the information acquired from the process and outcome measures into a useable format for issues analysis, identification of short and long term trends, and for inter- and intra-service training applications. In short, this system allows for the continuous feedback to the close air support community of lessons learned and potential remedies that have been identified in a field tactical environment

The issue of joint close air support discussed in this document was approached with the intent of developing a system for improving training which would lead to enhanced CAS effectiveness and reduce the probability of fratricide. To do this a number of initial steps should be taken to enhance the effectiveness of joint close air support. First, the efforts already underway to integrate doctrine into a joint focus should continue at an accelerated pace. Second, training conducted at the Combat Training Centers should be expanded to include Marine and Navy assets. Third, the Air Ground Training Feedback System should be installed at the field training sites, to include the Combat Training Centers, to provide an assessment tool of current procedures and provide a readiness yardstick for future JCAS developments. Fourth, the results of these assessments should be incorporated into individual and unit close air support training. Finally, the training base should be expanded to provide a greater awareness and understanding of joint close air support.

A TRAINING AND FEEDBACK PROCESS FOR JOINT CLOSE AIR SUPPORT IN LOW INTENSITY CONFLICT

I. PURPOSE

The purpose of this study is to identify the critical synchronizing aspects of air-ground operations and assist in the development of methods that will enhance operational readiness and the combat effectiveness of joint close air support operations in a low intensity conflict. The Air-Ground Training Feedback System developed through this effort provides performance assessments that may be used to enhance training and support analysis of doctrinal, organizational, training, materiel, and leadership issues such as OPTEMPO requirements for readiness. This document is the final report in support of Army Research Institute Contract MDA903-92D0075 and is designed to supplement a parallel effort focused on joint close air support in mid-to-high intensity conflict.

II. INTRODUCTION

The synchronization between air and ground forces is a complex process that requires continuous joint training. If done correctly, close air support can destroy an enemy's capability and will to fight. If done wrong, the results can be devastating. To illustrate the dimensions of the problem, the following vignettes are offered.

During Operation Urgent Fury (Grenada) two Navy aircraft responded to an Army call for close air support. However, the aircraft were unable to identify the enemy position and attacked the friendly unit, killing one soldier and wounding several others.

During Operation Just Cause (Panama) an Air Force AC-130 was assisting in an Army night assault on a fortified position. During the fight the AC-130 became misoriented and engaged the friendly unit causing several casualties.

The goal of the training feedback system is to develop a methodology to systematically identify and define operational aspects of joint close air support (JCAS) that may need attention so that the overall application of JCAS can be enhanced and the incidence of fratricide can be reduced. The study is designed to develop performance measures for the processes necessary to employ JCAS and an outcome assessment of the effectiveness of JCAS missions. These measures may be used to provide feedback on training status to units in all services and support intra- and inter-service close air support training programs .

This study, and subsequent development of an Air-Ground Training Feedback System, was to explore the application of close air support in actual combat situations. This allows the examination of doctrine, as well as appropriate tactics, techniques, and procedures that would normally be used in such an environment. In the absence of war, however, the "laboratory" for the study became the U.S. Army's Combat Training Centers. The scope of the training conducted at these centers includes brigade level ground forces and supporting air forces which are able to routinely conduct joint training in a realistic battlefield environment. By identifying and isolating the various constraints and limitations associated with each training center, it was possible to draw appropriate lessons and conclusions about the level of integration between ground and air forces and the degree of effectiveness of JCAS at the tactical level.

III. BACKGROUND

A. SOURCES

Doctrinal Literature: Literature, generally in the form of field manuals and Standard Operating Procedures, was reviewed for critical tasks and the sequence of activities and events. Information from these sources provided the foundation for the subsequent stages of the research. The source list that follows shows the primary documents available. It does not include classified documents or a myriad of training supplements, circulars, and other supporting papers.

AFM 1-1	Basic Aerospace Doctrine of the United States Air Force
MCM 3-3, V8	Mission Employment Tactics for Airborne Forward Air Controller (AFAC) and Tactical Air Control Party (TACP)
TACM 2-1	Tactical Air Operations
TACM 3-1 VI	General Planning and Employment Considerations
TACM 3-1 V8	Forward Air Controller
TACP 50-20 (FM 90-21)	JAAT Multi-Service Procedures for the Joint Attack Air Attack Team Operations
TACP 50-22	Tactical Air Control Party/Fire Support Team Close Air Support Operations
TACP 50-23 (FM 90-15)	J-SEAD Multi-Service Procedures for the Joint Suppression of Enemy Air Defenses
TACP 50-28 (FM 90-20)	J-Fire Multi-Service Procedures for the Joint Application of Fire Power
TACP 50-36	Joint Concept and Procedures for Close Air Support in the Rear Battle
TACP 50-39 (FM 90-17)	Beacon Multi-Service Procedures for Radar Beacon Operations
TACR 55-45	Tactical Air Force Headquarters and the Tactical Air Control Center
TACR 55-46	The Tactical Air Control System (TACS) - Air Support Operations Centers (ASOC) and Tactical Air Control Parties (to be replaced by ACC 55-8)
TACP 55-51	TACP Hand Book (to be replaced by MCM 3-3)
FM 1-111	Aviation Brigade
FM 6-20	Fire Support in the Airland Battle
FM 6-20-10	Tactics, Techniques, and Procedures for the Targeting Process
FM 6-20-40	Tactics, Techniques, and Procedures for Fire Support for Brigade Operations
FM 6-20-50	Tactics, Techniques, and Procedures for Fire Support for Brigade Operations (Light)
FM 7-10	The Infantry Rifle Company
FM 7-20	The Infantry Battalion (Infantry, Airborne, and Air Assault)
FM 7-90	Tactical Employment of Mortars
FM 7-98	Operations in a Low-Intensity Conflict
FM 44-3	Air Defense Artillery Employment: Chaparral/Vulcan/Stinger

FM 44-31	Tactics, Techniques, and Procedures: Avenger Squad Operations
FM 44-46	Manpads Platoon and Section Operations
FM 71-2	The Tank and Mechanized Infantry Battalion Task Force
FM 71-3	Armor and Mechanized Infantry Brigade
FM 71-100	Division Operations
FM 71-123	Tactics and Techniques for Combined Arms Heavy Forces: Armored Brigade, Battalion Task Force, and Company Team
FM 90-4	Air Assault Operations
FM 100-5	Operations
FM 100-20	Military Operations in Low Intensity Conflict
FM 100-26	Air Ground Operations System
FM 100-28	Doctrine and Procedures for Airspace Control in the Combat Zone
FM 100-103	Army Airspace Command and Control in a Combat Zone
FMFM 3-1	Command and Staff Actions
FMFM 5-1	Organization and Function of Marine Aviation
FMFM 5-40	Offensive Air Support
FMFM 5-45	SEAD (Draft)
FMFM 6-8	Supporting Arms Observer, Spotter, and Controller
FMFM 6-18	Fire Support Coordination
FMFM 6-60	Control of Aircraft and Missiles (Draft)
FMRP 2-72	J-Fire
NWP 22-2 (B)	Supporting Arms in Amphibious Operations
Joint Pub 3-09.1	J-Laser
Joint Pub 3-09.2	J-Beacon
Joint Pub 3-09.3	Joint Tactics, Techniques, and Procedures for Close Air Support (Draft)

Interviews: Structured interviews were conducted with a wide variety of Army, Air Force, and Marine Corps commands, schools, and other service agencies. The purpose of these discussions was to determine how the close air support system was organized, the key players and their actions, and how all these players interacted. The focus of these interviews was the determination of coordinating and synchronizing points between all the forces involved and the identification of tasks performed to ensure synchronization. The following is a list of personnel and organizations who participated in this effort.

Instructor Staff	Air Ground Operations School (AGOS), Hurlburt AFB
Selected Staff Members	Tactical Air Control Party School, Hurlburt AFB
Army Coordinator	Blue Flag, Hurlburt AFB
Program Manager	ACMI, Eglin AFB
Selected Staff Members	Air-Forward Air Controller School, Davis Monthan AFB
Selected Staff Members	OA-10 School, Davis Monthan AFB
Selected Staff Members	57th Test Group/PRO-10, Nellis AFB
Selected Cadre	Air Warrior II, Barksdale AFB
Selected Staff Members	Army Aviation School, Ft. Rucker
Project Officer	Army Air Traffic Control Agency, Ft. Rucker
Contractor Staff	Air Net Facility, Ft. Rucker
Selected Staff Members	School of Command Preparation, Ft. Leavenworth
Selected Staff Members	Air Force Element, CAC-T, Ft. Leavenworth
Selected Staff Members	Joint Programs Office, Air Combat Command, Ft. Leavenworth
Selected Staff Members	Concepts and Doctrine Directorate, C&GSC, Ft. Leavenworth
Selected Staff Members	Fire Support Combined Arms Doctrine, Ft. Sill
Selected Staff Members	Combined Arms and Tactics Department, Ft. Bliss
Selected Cadre	Joint Readiness Training Center, Ft. Polk
Selected Cadre	Marine Air-Ground Training Center, Twentynine Palms
Selected Cadre	Marine Aviation Weapons and Tactics Squadron One, Yuma, AZ
CAS Project Officers	Air Land Sea Application Center, Langley AFB

B. CAPABILITIES

Defining the tactical and operational conditions is essential for understanding the functional aspects of close air support. The start point for outlining these conditions is identifying current air and ground capabilities. This provides some insight into the perspectives of the various Services and focuses the study at the echelons where CAS operations are routinely conducted. The following outline highlights some of the critical aspects of force capabilities which need to be understood and integrated to ensure the effective use of close air support.

Ground Force Capabilities: While ground forces have a wide variety of weapon systems, this discussion only highlights those systems that are routinely competing for airspace at the forward edge of the battle area (FEBA): Aviation assets, indirect fires, air defense artillery, and unmanned air vehicles. The introduction and enhanced capabilities of all these elements have further complicated an already complex arena.

The two basic types of rotary wing aviation assets are lift and attack. Lift helicopters move personnel and equipment throughout the battle area and serve as command and control platforms. Attack helicopters serve as an airborne maneuver and/or fire support force.

There are two primary attack helicopters in the Army inventory: The AH-64 (Apache) and the AH-1 (Cobra), which has a number of different models and capabilities. The Apache is the most current Army attack helicopter and it carries a 30mm chaingun, and either sixteen Hellfire missiles or up to four 19-shot pods of 2.75 inch rockets. The Army also has several Cobra models. The AH-1E and AH-1F have essentially the same capability and carry a 20mm Gatling gun and either eight TOW (Tube-launched, Optically-tracked, Wire-guided) missiles or up to four 19-shot pods of 2.75 inch rockets. The older Army Cobra models (such as the P and S) carry the same TOW and rocket configuration as the E and F models and include a mix of 7.62 miniguns and 40mm grenade launchers.

The Marine Corps has two Cobra models. The AH-1T has a 20mm turret cannon and is capable of carrying the GPU-2A gun pod, CBU-55 fuel air explosives, smoke grenade dispenser, chaff dispenser, flare dispenser, MK-77 fire bombs, the TOW anti-tank missile, and a variety of 2.75 and 5 inch rockets. The AH-1W is an upgrade of the AH-1T and is capable of carrying the Hellfire missile.

Normally, all helicopters are limited by a pre-designated altitude that keeps their activities within 100 to 300 feet of the ground. This is especially true during Army-Air Force combined operations. Marine tactics allow for more flexibility, which is a product of greater integration of rotary and fixed wing within their organizational structure.

Indirect fire assets consist of mortars, artillery, and MLRS (Multiple Launched Rocket Systems). Mortars have a high trajectory and limited range (5 kilometers). They are, however, very mobile and remain close to the maneuver forces. Artillery can range out to about 20 kilometers and, while mobile, is positioned well behind the FLOT. It typically moves by echelon to predesignated firing positions. MLRS batteries are similar to artillery in their positioning but their trajectory and range (30 kilometers) exceed the normal coordinating boundaries (ie. coordinating altitude and FSCL [Fire Support Coordination Line]) that historically separated fixed

wing, rotary wing, and ground components. The increased ranges and, more importantly, the higher trajectories of fired rounds may cause significant adjustments of traditional flight paths and altitudes.

Unmanned Air Vehicles (UAVs) are small, remotely controlled aircraft equipped with video cameras. Their mission is to provide the ground force a real time, airborne TV view of an area. UAVs are an intelligence gathering asset and their use is supervised by the S-2. For airspace management purposes, they are allocated a block of airspace as if they were manned aircraft.

Air Defense Artillery in support of a typical maneuver brigade consists of Chaparral and Stinger missiles. Chaparral missiles are mounted on a tracked chassis and are equipped with a variety of target acquisition radar systems. The Chaparral weapon system is normally found at division and brigade echelons. The Stinger is a shoulder fired weapon typically found at echelons below brigade. These weapons provide about a five kilometer umbrella over the ground forces.

Air Capabilities: Among the services there are several fixed wing aircraft in the inventory that are designated as close air support aircraft. The Navy has the A-6E Intruder which is an all weather, day or night medium attack aircraft equipped with FLIR (Forward Looking Infrared Radar) and laser targeting capability, but no gun. The A-6E has excellent range, and therefore good loiter time in the CAS role. It can carry as many as twenty-eight 500 pound bombs. The Navy also has the F/A-18C Hornet, a multi-purpose (air-to-air/air-to-ground) aircraft with a 14,000 lb payload, which would fill the light attack role. The F/A-18C is equipped with a 20mm cannon. The F/A-18C does not have the range/loiter time of the A-6E, but it is an outstanding bombing platform, soon to be fully night CAS capable.

The Marine Corps has three aircraft for the CAS role: The same F/A-18C as the Navy; the F/A-18D, which is a two-seat day/night all-weather attack aircraft, very similar in performance to the F/A-18C; and the AV-8B Harrier II. The AV-8B will have either a FLIR or a bombing radar, is day/night capable, and has a Vertical/Short Takeoff and Landing (V/STOL) capability. It can be equipped with a 25mm gun and can carry approximately 8000 lbs worth of bombs.

The Air Force also has three aircraft designated for the CAS role in a LIC environment. The F-16 Falcon is a multi-purpose aircraft that makes an excellent bombing platform. It is equipped with a 20mm gun. The A-10 Thunderbolt (Warthog), which was specifically designed for close air support, is a relatively slow moving (about 300 mph) aircraft equipped with a 30mm gun and capable of carrying a payload of 16,000 pounds. Although slow, the A-10 has excellent range and loiter time approaching three times that of the F/A-18, the AV-8, and the F-16. The AC-130 gunship has both day and night capability and comes in two models. The AC-130A is equipped with two 40mm guns, two 20mm guns and two 7.62 mini-guns. The AC-130H is similar to the AC-130A except that one of the 40mm guns is replaced with a 105mm howitzer. Because of their vulnerability to ground fire, AC-130's are limited almost exclusively to LIC environments and support for special operations forces.

In addition to guns, all these aircraft (except the AC-130) carry three basic types of ordnance when used in the CAS role: missiles, bombs, and cluster munitions. The Maverick missile is designed to destroy hard targets such as tanks and bunkers. Four of these missiles are normally carried by each aircraft with a maximum load being six. Conventional Mark 80 Series bombs come in four sizes (250, 500, 1000, and 2000 pounds) and two types: General Purpose (GP) bombs, which are ballistically unguided area weapons and Laser Guided Bombs (LGBs), which are GP bombs outfitted with a laser tracking device and control features that guide the bomb to laser designated point targets as long as the bomb has the kinetic energy to reach the target. The number and type of bombs that the aircraft carry varies depending on the specific situation. Cluster munitions are area weapons and include various tailored packages of bomblets and mines for use against personnel or armored targets.

C. ORGANIZATION

Each service has a system which can provide command and control for close air support. For clarity, the following Overview paragraphs highlight the CAS control systems that each service performs at the operational level. Since this study focuses on the tactical level, where the Navy serves as an aircraft "provider" without any organic ground liaison capability, the subsequent discussions address only the Army, Air Force, and Marine systems.

Overview: The Army Air Ground System (AAGS) and the Air Force Theater Air Control System (TACS) are separate entities but are closely linked. The Air Force command and control structure is echeloned to match the Army command and control structure, and reaches all the way down to Tactical Air Control Parties (TACPs) at battalion level. The AAGS begins at the field army level and extends down through all echelons to the maneuver battalions.

The Marine Air Command and Control System (MACCS) and the Navy Tactical Air Control System (NTACS) are closely linked and fully compatible. During amphibious operations, the NTACS controls Navy and Marine air activity within the Amphibious Objective Area (AOA) until control moves ashore. At that time, the MACCS assumes control of Marine air activity as well as all other aircraft operating in direct support of the Marine Air Ground Task Force (MAGTF) within the Area of Responsibility (AOR).

Army Organization: In order to understand the interaction between the air and ground forces it is first necessary to understand applicable service organizations. For simplicity, the organization for Operation Just Cause in Panama will serve as the illustration. At the top was the Southern Command (USSOUTHCOM), a Unified Command staffed by members of all services and responsible for Central and South America. The Army component was commanded by USARSO (U.S. Army South).

The operation, however, called for a larger force than was available in the region, which was the 193rd Infantry Brigade stationed in Panama. As a result, additional forces were drawn from the United States. All the forces employed were organized into Joint Task Forces (JTFs) which were tailored for specific missions within the overall operation. Typically, each of these JTFs included one or more maneuver battalions and incorporated a variety of components (to include CAS) in support of the ground forces.

The JTF configuration is an excellent organizational structure for packaging forces to meet specific mission requirements. This flexibility is particularly important in LIC operations where normal unit Tactical Organization and Equipment (TO&E) may not be suitable for a mission. JTF's are constructed around various echelons and it is possible for a corps level JTF to have several subordinate JTFs of brigade and battalion size. Since the capabilities differ significantly between these echelons, it was necessary to define the tactical level that would be used for this study.

If the focus was on an echelon too low, it would miss many of the necessary integrating actions required to synchronize CAS. If the focus was too high, many of the important nuts and bolts activities would be left out. With these factors in mind, the echelon of brigade was selected as the base organization. Brigades routinely utilize and synchronize a wide variety of supporting arms and combat multipliers and they are designed to integrate air assets as a functional part of their tactical operations.

Air Force Organization: At the Army battalion, brigade, and division there is a Tactical Air Control Party (TACP) led by an Air Liaison Officer (ALO) who operates in coordination with the echelon's fire support element and the G3/S3 Air. These ad hoc teams form the Army-Air Command and Control (A2C2) elements at each echelon. The Army corps A2C2 element is called the Air Support Operations Center (ASOC) and it provides the approving authority for all subordinate TACP CAS requests.

There are three tactical components of Close Air Support: The Tactical Air Control Party (TACP), the Air Forward Air Controller (AFAC), and the attack aircraft. For purposes of this study only the command and control elements (the TACP and AFAC), which are primarily responsible for ensuring CAS synchronization and effectiveness, are addressed.

The two primary elements of the TACP at battalion level are the Air Liaison Officer (ALO) and two Enlisted Terminal Attack Controllers (ETACs). At brigade level the TACP consists of an ALO, a FLO (Fighter Liaison Officer), a TALO (Tactical Airlift Liaison Officer) and three ETACs. The division TACP has an ALO, a FLO, a TALO, four ETACs, and a twelve man support team. In all three echelons, the ALO serves as a special staff member. He is, therefore, an integral part of the unit's planning and preparation process from beginning to end and the TACP, as a whole, represents the critical link between the supporting CAS and the supported ground unit.

The AFAC, if available, does not arrive in the area of operations until just prior to the arrival of attack aircraft. He will have had a broad operational briefing and intelligence update prior to his arrival and will rely on the local TACP to provide more specific information on the immediate tactical situation. The AFAC will normally provide the direct command and control over the attack aircraft as they arrive on station.

Marine Organization: The Marine Corps trains, deploys, and fights as a MAGTF (Marine Air Ground Task Force). Every MAGTF has a Command Element (CE), a Ground Combat Element (GCE), an Air Combat Element (ACE), and a Combat Service Support Element (CSSE). The MAGTF is tactically tailored to the mission and will normally deploy as one of three configurations. A Marine Expeditionary Unit (MEU) is built around a reinforced infantry battalion, and can include the AV-8B as part of the ACE. A Marine Expeditionary Brigade

(MEB) is built around a reinforced regiment and would include the AV-8B and the F/A-18C and D as part of the ACE. A Marine Expeditionary Force (MEF) is built around a Marine division and includes at least one Marine Air Wing in the ACE. With such a structure, each level of effort has its own organic CAS and command and control capability, which can be either quickly absorbed by the next higher command or included in a JTF command and control structure.

Unlike the habitual attachment relationship between the Army and Air Force, Marine air and ground forces are organic components of the MAGTF. As a result, Marines integrate CAS training down to the company level. To facilitate the coordination between air and ground forces TACP teams are *assigned* to division, regiment, and battalion headquarters. The battalion TACP includes an Air Liaison Officer (AO) and two Forward Air Controllers (FACs). All FACs are either qualified Marine pilots or Naval Flight Officers. These FACs are routinely attached down to the companies. While the Air Force normally relies on an AFAC for CAS terminal control, the Marines normally use their ground FACs for the same purpose.

D. THE MISSION SEQUENCE

A ground maneuver unit conducts a variety of combat missions, all of which include a planning, preparation, and execution phase and involve the continuous synchronization of Battlefield Operating Systems (Intelligence, Maneuver, Fire Support, Air Defense, Mobility/Counter mobility/Survivability, Combat Service Support, and Command & Control) to ensure mission success. The following discussion highlights the sequence of ground maneuver activities that directly relate to the application of close air support.

Planning Cycle: The planning cycle is initiated when the brigade receives a mission warning order from division. Based on the information in the warning order, the brigade commander issues his initial planning guidance and intent to the brigade staff. The brigade staff then begins developing their own general plans, or staff estimates, which outline how they will support the brigade mission. One of the more critical aspects of this initial staff planning is the development of the intelligence picture, referred to as the Intelligence Preparation of the Battlefield (IPB). The IPB effort will attempt to learn as much about the enemy situation (force type, capabilities, disposition, location, order of battle, etc.) as possible.

Information derived from the IPB, which is part of the overall METT-T (Mission, Enemy, Friendly Troops, Terrain, and Time) analysis, is then used to conduct the wargaming, or Course of Action (COA) analysis. The wargaming process is essentially a brainstorming session among the staff to determine which of several potential COAs provides the best opportunity for accomplishing the mission. Once the commander chooses a COA, staff planning then focuses on how to support the plan.

The fire support effort is designed to support the scheme of maneuver by enhancing direct fires and disrupting or neutralizing the enemy's ability to bring fires on friendly forces. To do this, indirect fires are targeted on known and likely enemy positions and prioritized and sequenced so that they may be used at the most opportune time. The fire support plan includes all aspects of indirect fires available to the ground maneuver unit: Artillery, mortars, naval fires, helicopter, and close air support assets.

Fire support planning in LIC operations requires special attention. Ground forces may well be widely scattered and beyond the range of indirect fire assets. In these cases, the only fire support available will be in the form of attack helicopters or CAS or some combination of the two.

Air defense planning, on the other hand, is generally unnecessary in a LIC environment. By definition LIC implies a level of conflict that would exclude an enemy air capability.

The use of Army aviation assets (lift and attack) is coordinated to ensure appropriate integration with both the maneuver and fire support plan. Since Army aviation can be utilized in both these capacities, it is important that its roles and missions are clearly defined and synchronized with all affected battlefield operating systems (BOSs) within the ground maneuver unit.

Once the independent staff analysis and the staff/BOS integration is complete, a formal Operations Order is presented. This order states how the ground maneuver unit and its supporting assets plan to fight the battle.

The Preparation Process: In addition to a wide variety of readiness activities to ensure that the unit is capable of conducting the mission, the commander and staff continuously review the plan. Appropriate changes are made as necessary to reflect new information. This new information is derived from the actual status of unit readiness, available combat power, adjustments based on rehearsals, and intelligence updates. Since each modification to the order causes a ripple effect through all other BOSs, coordination among BOSs is continuous.

The fire support plan, in particular, typically reflects a number of refinements during this period. Targeting, for example, becomes more precise as the intelligence picture becomes clearer. This, in turn, has an impact on required munitions, target priorities, and target and fire sequencing. The final determination of how, when, where, and against what targets, CAS will be employed is done during this period.

The Execution Phase: In an attack, the attacker moves from an assembly area to the line of departure. Beyond the line of departure, the attacker maneuvers to the objective area. Once there, the attacker assaults to seize the objective. The defending unit seeks to halt each consecutive step of the process. In either case, however, the fire support components will provide the initial fires on the opposing force and will continue engaging through the balance of the battle. The ability to bring effective indirect and airborne fires on an enemy force becomes more complex as the distance between the forces narrows and the decision cycle and reaction time for the ground commander speeds up. At a point when the ground situation is most chaotic, the requirement for accurate targeting is the most necessary. The accuracy and effectiveness of these fires, to include CAS, can be directly traced to the planning and preparation that preceded the execution.

CAS Request: There are two types of requests for CAS - Preplanned and Immediate. A preplanned request from Army forces is submitted up through fire support channels to the senior command (theater or Unified Command) Air Operations Center (AOC). Aircraft to meet the request are then allocated based on priorities and availability and are formally given the mission in the Air Tasking Order. An immediate request from a ground force is sent directly back to a predesignated headquarters based on the tactical organization for the mission. In its most simplistic Army-Air Force form, this would be the ASOC (Air Support Operations Center) at the senior JTF headquarters. If approved, aircraft which are already allocated to the JTF would be diverted to meet the request. Silence by intermediate commands is considered consent.

While afloat during an amphibious operation, Marine requests for CAS are routed through the SACC (Supporting Arms Coordination Center, aboard a ship) and the NTACS (Navy Tactical Air Control System), which provides overall air command and control within an AOA (Amphibious Objective Area). Once control is moved ashore, the Marine CAS requests go through the FSCC (Fire Support Coordination Center) and the MACCS (Marine Air Command and Control System). Preplanned CAS goes through the normal channels and is approved prior to the ATO being published. Immediate CAS is called in directly to the Direct Air Support Center (DASC) and is considered approved if no other controlling agency (such as the Fire Support Coordination Center) objects or denies the request. As with the Army-Air Force system, silence is consent. Figure 1 illustrates the CAS mission request flow.

[illegible]

Intention is not to show command relationships, but the Information flow and complexity of the TAGS process.

The JFC will designate a component commander as JFACC. The AFFOR is shown for illustration.

- ** Warfare Commanders will support the AOA when the BG is within range.**
- *** When the BG is unable to support the AOA, the OTC will assign functions to specific units in support of the CATF.**

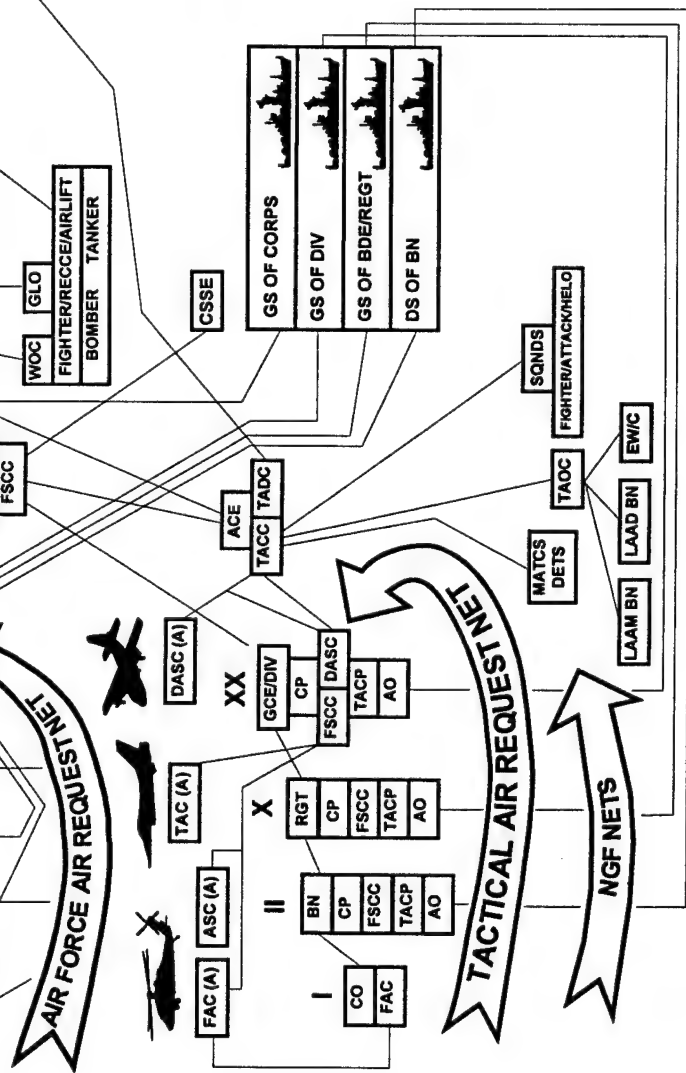


Figure 1: Request sequence for Close Air Support

Air Tasking Order: The Air Tasking Order (ATO) is the primary tool for managing air assets in a theater. Based on the theater operational plan and targets requested from subordinate commands, the air component commander (in the Gulf War all air assets from all services were under his operational control) develops a target list. The targets are prioritized and compared to requirements, which include support to the ground tactical plan. Air assets are then allocated with appropriate munitions to meet the requirements. This is translated into specific air sorties which are assigned specific targets, some of which are Close Air Support missions. These are stated in the Air Tasking Order which is published daily.

E. THE JOINT READINESS TRAINING CENTER

There are a number of formal training environments in which ground and air forces are routinely incorporated into the training. The Army's Combat Training Centers consist of the National Training Center (NTC), the Joint Readiness Training Center (JRTC), the Combat Maneuver Training Center (CMTC), and the Battle Command Training Program (BCTP). The Air Force conducts Blue Flag exercises at Hurlburt Field and the Marines conduct their training at the Air-Ground Training Center at Twentynine Palms. Blue Flag and BCTP are simulation exercises designed for echelons above brigade. The NTC, JRTC, CMTC, and the Marine Air-Ground Training Center are field sites which train brigades and below. This study used the JRTC as its test facility.

Overview: The focus of JRTC training is light (to include airborne, ranger, and air assault) battalions and brigades. A typical rotation will consist of a brigade headquarters and two battalions. The JRTC serves as the higher headquarters. Battalions conduct a fifteen day force on force rotation which typically includes initial occupation of a perimeter, anti-guerrilla operations, a deliberate attack, and a defend mission. Opposing forces (OPFOR) are drawn from a resident battalion which replicates local guerrillas and a Soviet style Motorized Rifle Battalion. Mission scenarios are designed to train units in a low-to-mid intensity combat environment. The Air Force's Air Warrior II based at Barksdale AFB provides the CAS support to JRTC.

Constraints: Because the JRTC is a training environment, there are a variety of safety and training constraints which are necessarily imposed on the player units. Significant electronic warfare play is precluded since it could severely impact on commercial air traffic. To provide training value to the ground forces CAS aircraft must be visible and are therefore required to operate within the airspace generally above the boundaries of the battle area. Battle damage assessments (BDA) against ground forces as a result of CAS and indirect fire employment are deliberately limited to ensure that a direct fire battle occurs. To ensure that CAS is incorporated into the exercise, Air Warrior II operates a "push" system, in that aircraft will be on station whether they were requested or not. Air Warrior cadre at JRTC serve as air safety officers during missions as well as conducting their normal OC (observer-controller) training duties.

Instrumentation: While all the Combat Training Centers are instrumented, the level of instrumentation varies greatly among them. Because of its recent move to Fort Polk from Fort Chaffee and the type of forces employed, the JRTC is the least instrumented of the three Army field training sites. Battle damage assessments (BDA) as a result of air-ground engagements are derived from probability tables and OC judgement. Losses to ground forces as a result of CAS and indirect fire employment are deliberately limited to ensure that a direct fire battle occurs.

The primary instrumentation system in place at the JRTC is MILES (Multiple Integrated Laser Engagement System). MILES is laser-sensor equipment that is carried by each individual, weapon system, and vehicle in the training unit and the OPFOR. MILES laser equipment attached to weapons replicates that weapon's range and effectiveness. MILES sensor equipment replicates the impact of weapons on personnel and vehicles. That is, rifle will not kill a tank, but a tank round can kill a soldier. However, fixed wing aircraft do not have MILES capability.

IV. THE SYSTEM MODEL

The conceptual approach to the Air-Ground Training Feedback System is illustrated in the system model shown in Figure 2. The model (Keesling, 1992) depicts two primary components: process measures and outcome measures. Outcome measures are designed to identify *what happened* by keying on a variety of effectiveness factors such as battle damage assessments and specific CAS contributions to the overall battle. Process measures focus on the *why it happened* aspects of the close air support mission. To do this, the process measures address critical events and actions that must be accomplished to ensure the effective application of CAS.

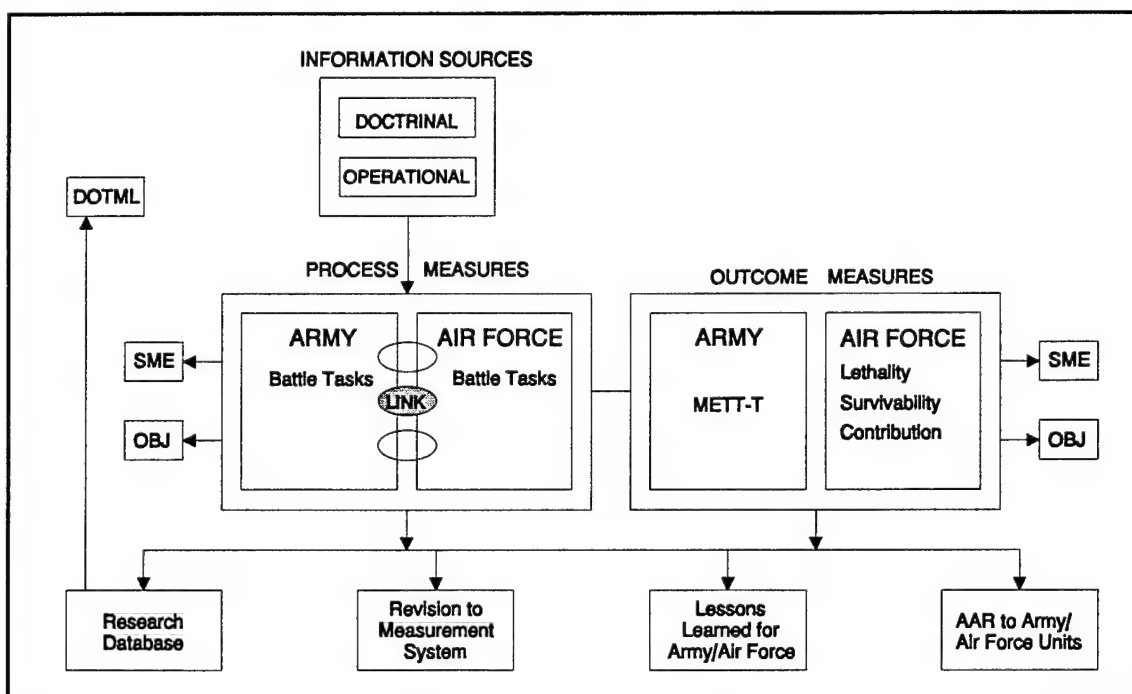


Figure 2: Schematic organization of the model for the Air-Ground Training Feedback System

Logically, if the process tasks are done correctly, the level of CAS effectiveness should be enhanced. Conversely, if CAS application is ineffective, the model provides a format to step back into the process tasks to identify specific disconnects in the planning and preparation activities and information flow. In either case, the model provides a structure with which to clarify and focus on those aspects of CAS operations which may require additional emphasis or refinement.

Another feature of the AGTFS shown in Figure 2 is the feedback mechanism which is designed to synthesize the process and outcome assessments into an easily accessible framework. This allows for immediate training feedback to units at the field training sites and provides a tool to assist in home station training. It also allows for more detailed and focused evaluation of systemic issues which can be summarized into lessons learned for the entire CAS community. Finally, the figure depicts a research database containing this information which can be used to examine the need for, and the effects of, changes in doctrine, organization, training, material, and leadership. As new equipment becomes available, or doctrine is modified to adjust to new threats, or responsibility for certain tasks is passed to different players, the research database containing historical performance information can be used to help guide the changes and determine the impact on CAS operations.

V. PROCESS MEASURES

A. OVERVIEW

Process measures were developed to provide an analytical tool for determining why CAS outcomes were, or were not, effective. Conceptually, this effort focused on the procedures and information flow required to put the correct ordnance on the correct target at the correct time. To do this successfully, both the ground and air components in the CAS effort needed to know a certain amount of information and take specific actions. As a practical matter, the volume of information and the number of actions was likely to be overwhelming if each discrete item was identified independently. Therefore, the research focused on those tasks which were absolutely essential to employ close air support effectively.

The development of these critical tasks, or process measures, took several steps. The first step was to identify the flow of events necessary to operationalize CAS in support of a ground maneuver mission. Once this general event sequence was defined, it was possible to identify the key players and how they fit into the overall event scheme. Next, it was necessary to identify and define what specific information and actions were required of each of these elements. The functional relationships between components could then be analyzed to determine the synchronizing nodes among them.

The initial approach, which would provide the overall event sequence, was to analyze CAS doctrine for the Army, Air Force, and Marine Corps. The doctrinal tactics, techniques, and procedures applicable to each service, however, were not the same among services. However, the general event flow was sequentially similar. An examination of how the different components coordinate and employ joint close air support in the field would provide the nuts and bolts aspects of how to plan, prepare, and execute effective close air support despite apparent disconnects in doctrine between services.

There are three primary components responsible for CAS operational control on the battlefield. They are the ground maneuver unit, the TACP, and the AFAC. (As discussed earlier, the TACP and the AFAC functions are essentially combined in Marine operations, but for purposes of this study the more complex organization is used and TACP and AFAC are addressed separately.) Each of the three primary components is responsible for a specific segment of CAS operations. The ground maneuver unit provides the context for the air support. The TACP is responsible for integrating CAS with the ground maneuver plans. The AFAC provides direct control over the attack aircraft.

Individual task lists were developed for each component. Initially, the lists were derived exclusively from doctrinal sources and interviews with school cadre. Interviews were then conducted with unit and field training cadre to develop an operational task list. The doctrinal and operational lists were merged and refined until a comprehensive list of tasks and their subordinate elements of information was constructed for each component.

The tasks were then organized into their logical sequence (plan, prepare, and execute) and linked to show dependency or interaction. Three parallel flow charts evolved depicting the sequence of actions to be conducted by the ground maneuver component, the TACP, and the AFAC. This format provided the basis for developing a synchronized event matrix for all critical tasks essential for effective CAS employment.

Finally, the tasks, together with flow charts depicting their sequence and linkage, were reviewed and refined by a panel drawn from the JRTC and Air Warrior II training cadre representing Air Force, Army Aviation, Air Defense, Fire Support and maneuver elements.

B. GROUND MANEUVER TASKS

Ground maneuver tasks were developed to identify those actions by the ground maneuver forces that directly influence the application and effectiveness of CAS. Within the battlefield operating systems (BOSs), CAS is considered a functional part of the fire support system. However, the successful utilization of CAS requires the close integration with other BOSs for information and coordination.

The Combined Arms Battle Tasks (Lewman, 1994) were developed to identify critical combat tasks for ground maneuver forces. As such, they provided a useful basis for development of ground maneuver tasks as they relate to CAS. While they did provide a firm foundation and defined the scope and magnitude of ground maneuver tasks, many of these tasks were too broad for the narrow focus of this study. Even so, a candidate task list was prepared with the intention of refining the elements of information within each task as CAS specific measures were developed.

A deductive approach was then followed in which TACP tasks were used as the start point from which to derive appropriate ground maneuver tasks. Conceptually, the TACP must receive and give information, as well as coordinate with someone, so the process became that of identifying the appropriate information and personnel in the ground maneuver unit and identifying tasks they must perform to enable the TACP to perform its tasks.

The candidate tasks derived from the Combined Arms Battle Tasks were aligned with the requirements from the TACP task list. The process then became one of filling in the blanks and discarding redundant and extraneous elements of information. In cases where there were still gaps, or the task measures of performance were inadequate, Army training documents (mission training plans and field manuals) were used to assist in fleshing out the tasks. Finally, the ground maneuver task list was reviewed for completeness, correctness, and the degree of integration with the TACP tasks. The ground maneuver task list is in Appendix A.

C. AIR COMPONENT TASKS

Air component tasks were derived from both doctrinal and operational sources. Doctrinal sources included a large number of primary source documents as well as interviews with school training cadre. Interviews with unit personnel and field training site cadre (Army, Air Force, and Marines) provided the primary sources for operational aspects of CAS. Both sources provided volumes of information on CAS operations specifically and how CAS was linked to broader issues, such as airspace management. Based on this information, air component tasks were organized into two lists - one for the TACP and one for AFAC. Both the TACP and AFAC tasks were divided into planning and preparation phases. A single execution task list was developed that is applicable to either the TACP or the AFAC.

TACP Tasks: The TACP consists of an ALO and terminal control personnel who are attached to a ground maneuver unit and function as part of the fire support battlefield operating system. The TACP mission is to integrate CAS with other fire support assets which, in turn, are synchronized with the ground force scheme of maneuver. To ensure effective integration, the TACP must fully understand the ground tactical situation (friendly and enemy) and what part fire support is expected to play in the battle. In addition, because of the unique vantage point aircraft pilots have of the battlefield, the ALO must be cognizant of unit intelligence requirements and be prepared to disseminate and exploit new information that is provided by CAS pilots. In short, to ensure that CAS is used to its full potential as a force multiplier, the ALO and his team must become an integral part of the ground force staff.

The direct control of the attack aircraft is done by a FAC who can either be on the ground (GFAC - normally a member of the TACP), or in the air (AFAC). In this study, the actions by an Air Force AFAC are addressed so that the complete spectrum of critical events for all controlling elements is included. (It should be noted that there are doctrinal differences between the employment of a USAF AFAC and a Marine Corps AFAC/ATAC. The specific duties of each are discussed in Section III-C.) The AFAC is responsible for acquiring enough information from the TACP to provide terminal control. The AFAC, in turn, provides the TACP with critical combat information he acquires himself or from other pilots.

Two task lists (one each for the AFAC and TACP) were developed based on the specific actions required of each element as determined from the source documents and interviews (Root, 1993a). The tasks within each list were grouped by the phase of the mission when they would logically occur - plan, prepare, and execute. Tasks were then sequenced within each phase to reflect their place in the event flow and linked to each other to indicate interaction or dependency. The TACP task flow chart followed a straightforward pattern with tasks occurring in concert with the ground maneuver mission flow of plan, prepare, and execute. The TACP task list and flow charts for the planning and preparation phases are in Appendix B.

AFAC Tasks: The AFAC event sequence follows a somewhat different pattern than that of the ground maneuver force or the TACP. The AFAC receives its initial planning guidance and intelligence estimate from the squadron intelligence officer or GLO (Ground Liaison Officer) usually prior to take off and certainly prior to arriving in a brigade sector. The information in the initial briefing is broad and covers the overall scope of operations. Once on station over the tactical area of operations, the AFAC relies on the TACP to update the information given at the squadron and provide additional specific mission guidance. As a result, the AFAC planning phase is split into two segments: pre-flight and on-station. Preparation tasks are done rapidly and are generally designed to confirm critical information and actions.

Execution Tasks: The execution phase is conducted by a Forward Air Controller, which can be the AFAC, if there is one on station, or a ground FAC (GFAC), who is a member of the TACP. In either case, the tasks and the task sequence for the execution phase are the same for the TACP and the AFAC. The AFAC task list and flow chart (plan, prepare, and execute) are in Appendix C.

Essentially, TACP personnel who have participated in the staff planning and preparation, have the most detailed knowledge of the mission. That knowledge is synthesized and briefed to the AFAC, who then passes critical elements of information to the attack aircraft. The attack aircraft physically strike the designated targets and relay combat information back through the AFAC to the TACP. This information flow and interaction between the TACP and AFAC is continuous throughout the mission.

D. INTEGRATED TASK LIST

The final step in the development of the process measures was the integration of the ground maneuver, TACP, and AFAC tasks (Root, 1994). This was done by linking the individual tasks identified in each list to supporting and dependent tasks in the other lists. This process expanded the horizontal task sequence and linkage and resulted in a tiered or stacked vertical linkage with the TACP serving as the integrating agent between the ground maneuver force and the AFAC. Figure 3 depicts the overall relationships between the three task lists.

MANEUVER AND TACP CLOSE AIR SUPPORT TASK SEQUENCE

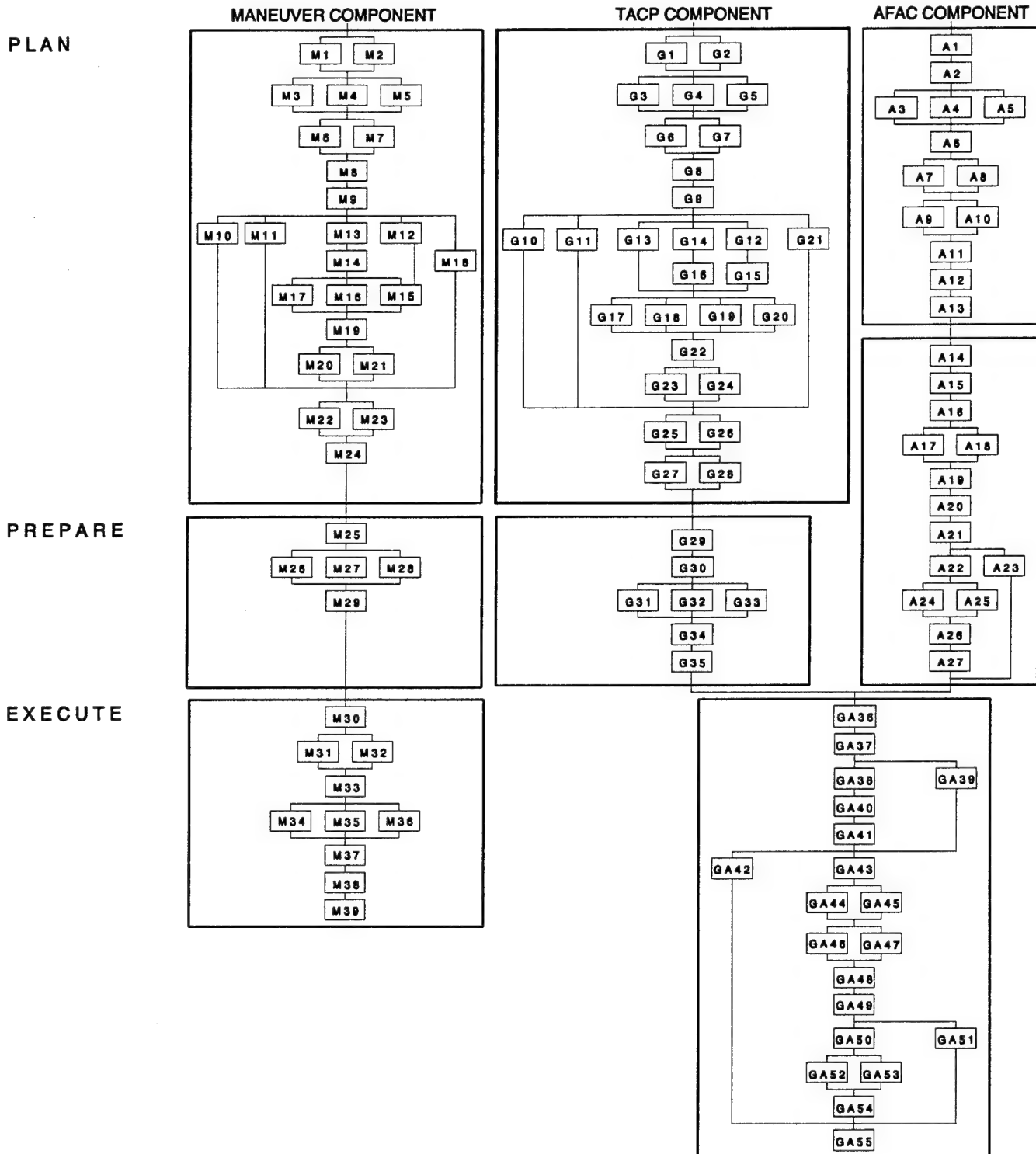


Figure 3: Schematic of the task linkage network of CAS battle tasks for air and ground components

The integration of all task lists provides the capability of backing through the task linkages from the air to the TACP to the ground maneuver component to clearly identify which, if any, links in the event chain are weak. As an example, if the ground maneuver fire support plan is flawed, it is unlikely that the CAS execution will be entirely effective. Another important aspect of this three-dimensional linkage is that it is possible to identify potential by-pass linkages and secondary sources in the event of a disconnect between normal circuits. This information could also help identify predictive events which could serve as alert indicators and allow for corrective action before the process became completely unravelled. Finally, the task linkages provide a clear picture of the magnitude of the effort and the scope of players and information necessary for the effective application of close air support assets. Task flow charts and linkages are shown in Appendix D.

E. TASK REVIEW

Once all the tasks were identified, defined (using the elements of information), and integrated into the proper schema, it was worthwhile to compare LIC processes with those of a mid-high intensity environment. After substantial review by training cadre from both JRTC-AWII and NTC-AWI, it became clear that the process was essentially the same. This corresponds with other studies involving ground maneuver processes in which critical tasks had to be accomplished regardless of the environment. (ie. an OPORD is completed in the same fashion in a jungle or a desert.) As a result, the task list that was developed from the research and field tryout is, with minor adjustments due to LIC conditions, identical with the task list that evolved from the JCAS study for mid-to-heavy combat environments.

VI. OUTCOME MEASURES

Outcome measures were developed to provide a specific assessment of CAS effectiveness on a mission by mission basis (Jarrett, 1994). Since there is no air to air combat at the CTCs, the outcome measures only assess air-ground engagements. Conceptually, while the empirical data derived from CTC player instrumentation would provide the foundation for assessments, both objective and subjective measures are used. However, these assessments only focus on overall, end-of-mission factors which address a final level of effectiveness. The data requirements are designed to identify specifically *what happened* in three areas: Lethality, Survivability, and Contribution. This assessment does not attempt to determine why, or how, and more critically it does not address a number of more subtle factors that produce mission success.

A. LETHALITY

The lethality factor (see Figure 4) is an empirical measure that assesses the number of enemy forces lost to friendly CAS. It is a straightforward battle damage assessment (BDA) expressed as a percentage (enemy losses/weapons fired). The formula for computing the Lethality Component Measure (LCM) is: $\text{Percent} \times .25 = \text{CCM}$

<u>Lethality Component Measurement</u>	
A. Number of Weapons Used:	_____
B. Number of Targets Destroyed:	_____

Figure 4: The Lethality Component Measure (LCM)

B. SURVIVABILITY

The Survivability Component Measure (see Figure 5) is an assessment of friendly aircraft lost to enemy ground fire. As with the lethality measure, it is a straight loss percentage. The formula for computing the Survivability Component Measure (SCM) is: $\text{Percent} \times .25 = \text{CCM}$

<u>Survivability Component Measurement</u>	
A. Number of Aircraft Starting Mission:	_____
B. Number of Number of Aircraft at End of Mission:	_____

Figure 5: The Survivability Component Measure (SCM)

C. CONTRIBUTION

Since comparison of friendly and enemy BDA is such a limited measure of what happened, it was necessary to develop a modifying measurement, called Contribution. The Contribution factor is designed to serve as a refinement of the casualty exchange ratio derived from the Lethality and Survivability Component Measures (LCM and SCM). Contribution is framed by the factors of METT-T (Mission, Enemy, friendly Troops, Terrain, and Time) which have been modified to meet the measurement criteria necessary for the CAS outcome assessment. These measures provide a mix of empirical and subjective data and address a number of critical outcomes that give a more comprehensive picture of what happened.

The Mission factor determines whether CAS accomplished the mission assigned to it. Enemy determines whether the correct targets (those that correspond to and support the ground maneuver plan) were attacked. Troops addresses the fratricide issue. Terrain seeks to identify whether the proper tactics were used by the attack aircraft. Finally, the Time factor addresses CAS synchronization with the ground maneuver force. Figure 6 illustrates the elements of the Contribution Component Measure. The Contribution Component Measure (CCM) is the total percent of all the elements.

Contribution Component		
Mission: Did the CAS mission accomplish the task assigned by the ground commander?	Yes <u> </u> (+10%)	No <u> </u> (0%)
Enemy: Was the correct enemy force, or Engagement Area, attacked?	Yes <u> </u> (+10%)	No <u> </u> (0%)
Troops: Were friendly forces attacked by the CAS or the friendly aircraft destroyed by friendly ADA or ground fires?	Yes <u> </u> (0%)	No <u> </u> (+10%)
Terrain: Did the CAS aircraft use the proper tactics or counter measures during the attack?	Yes <u> </u> (+10%)	No <u> </u> (0%)
Time: Did the CAS aircraft attack within the time window designated by the ground commander, or did the ground commander synchronize the CAS into the battle?	Yes <u> </u> (+10%)	No <u> </u> (0%)

Figure 6. The Contribution Component Measures (CCM)

D. INDEXING OUTCOME MEASURES

Once all the outcome measures were identified it became necessary to organize the data to produce an index capable of providing some comparative data that could be used for trendline and other analysis. This was done by weighting the three main components (Lethality, Survivability, and Contribution) within a 100 point scale. The Lethality Component Measure (LCM) was assigned 25 percent. It is possible that the CAS aircraft could have a very high LCM and not have attacked the correct targets. The Survivability Component Measure (SCM) was also given 25 percent. This figure will not skew the total index if a large percentage of aircraft are lost in an otherwise successful attack or, conversely, if a low number of aircraft are destroyed in an unsuccessful attack.

The Contribution Component Measure (CCM) consists of five sub-components which are independent measures within the data group. The CCM (Fig. 6) was given 50 percent of the total index with the sub-components each taking an equal fraction. This is the most important portion of the outcome measures because this component serves as a modifier for the casualty exchange ratio derived from the LCM and SCM by incorporating mission effectiveness assessments. The final index is computed by adding the LCM, SCM, and CCM.

VII. THE DATABASE

The close air support database (Butterfield, 1994) was designed to provide a central collection point for CAS data derived from field site training missions. Since the CTCs and the Marine Air-Ground Training Center at Twentynine Palms offer the only situations in which there are both ground maneuver and air forces routinely present, their training rotations provide the best picture of how actual CAS operations are conducted. Process measures can be collected from all field training sites, but due to instrumentation limitations empirical outcome data can only be collected from the NTC. Until they undergo instrumentation upgrades, the JRTC and CMTC can only provide subjective outcome assessments. The Marine Air-Ground Training Center conducts its training in a live fire environment which clearly satisfies any questions about where the munitions fell and what they hit. However, the field training is conducted in such a manner that the actual use of CAS is more of a firepower demonstration designed to reinforce techniques and procedures to the ground forces and underscore close air support's potential as a force multiplier.

The database prototype was developed to facilitate the use of its three main elements: data collection, data manipulation, and data access. Data collection involves the actual gathering of information from the training sites and its entry into the database. Data manipulation addresses the capability of sorting the gathered information within the database into a usable format. Data access involves the ease with which the information can be extracted from the database, both immediate and long term, and its potential utility.

A. DATA COLLECTION

Data collection can be accomplished by using either a paper based system or an electronic collection instrument (ECI). Two automated data collection structures to supplement the already available paper collection instruments were explored. The first provided text in the form of a task checklist and a computer generated graphic presentation of task assessments using task sequence and linkage charts. A prototype was developed and was well received but proved too technically ambitious for practical use. A second prototype was developed using the checklists only and proved to be adequate as a field collection and storage device.

Regardless of the collection device, key observer/controllers (OCs) or other training cadre are required to collect the data. The ground maneuver package should be completed by a designated trainer at the unit TOC (Tactical Operations Center). The TACP package should be completed by a cadre trainer with that element. The AFAC package should be completed by the AFAC in concert with training cadre.

At the JRTC, the only instrumentation available is MILES which does not cover fixed wing aircraft. As a result, all BDA decisions regarding air-to-ground and ground-to-air engagements are largely subjective. OCs rely on a monte carlo assessment system which is keyed to BDA probability tables and dice rolls. Problems encountered using this method are the timing of assessments, confirming that engagements have occurred, and determining whether ordnance was used. Even so, it is possible to make some relatively reliable judgements regarding the effectiveness of close air support.

Data derived from these assessments can then be entered, either physically from paper instruments or by electronic download from ECIs, into a single mission file located at a central desk top computer located in the rear. Electronic transfer directly from the field to a central PC is technically possible and can be done if the applicable instrumentation (in this case, over a radio net or via a transmission device on a HMMWV) is in place. Once all rotational missions have been completed, the rotation files can be entered into a central archive database available for further research and analysis.

B. DATA MANIPULATION

Data manipulation for report purposes can be conducted at any stage after the information has been entered into a central desktop computer. To facilitate this requirement, a number of report templates have been developed to allow immediate organization of the data into mission, rotation, and trendline formats. In addition, it is possible to extract focus elements, such as all planning tasks in general or, more specifically, TACP planning tasks. This level of flexibility is critical in providing the capability to exploit training points as they emerge immediately following a mission or in identifying systemic issues and trends over multiple rotations.

C. DATA ACCESS

The ability to easily access the data in a readily usable form is the final critical aspect of this product. This function is designed to accommodate three time frames: Direct access, cumulative, and long range. Direct access is focused on the capability of producing immediate training assessments in support of after action reviews (AARs) conducted after each mission. Cumulative data, gathered and tabulated over the course of a rotation or exercise, can be presented back to a unit in a variety of report formats at intervals during the exercise or at the conclusion of the rotation. These reports can be structured to provide an overall training assessment and/or demonstrate trends during the rotation. Once printed, these reports can be part of a unit's take home package and facilitate home station training while the exercise experience is still fresh.

Most important, however, is the long term accumulation of data which can be used not only to increase the readiness level of the individual exercise units, but to enhance the operational capabilities of the total force. Data can be used to more clearly define systemic issues and provide a focus for the type and scope of potential remedies. In addition, the database can serve as a tracking tool to verify whether installed enhancements are having the desired impact.

D. REPORT FORMATS

To facilitate research and analysis, the data has been organized into two databases, one for process measures and the other for outcome measures. Within each database the information has been organized into a variety of formats accessible through a menu entry framework. The two primary levels of the Process and Outcome menus are Report Selections and Query Selections. Under each of these broad categories are more specific selection and option items.

1. PROCESS MEASURES

a. Reports:

For process measures there are five report selection formats: Task Title Selection, Task Summary Selection, Task Type Selection, Task Phase Selection, Echelon Level Selection, and Outcome Selection. Under each of these selection titles there are a number of options which are designed to further focus the collected data into specific issues. The matrix in Figure 7 shows the five Process Report Selections and options associated with CAS battle tasks.

PROCESS REPORT SELECTIONS

REPORT SELECTIONS	OPTIONS
Task Title	Task Assessment Distribution Task Remarks Comparison
Task Summary	Training Day Mission Rotation Training Center
Task Type	AFAC TACP CAS Execution Maneuver
Task Phase	All Planning Preparation Execution
Echelon Level	All Company Battalion Task Force Brigade Division Corps

Figure 7: Report Selections and options associated with CAS battle tasks.

b. Query Selections:

The six options associated with Query Selections allow for accessing and cataloguing the data. This feature was deemed worthwhile for research and data tracking purposes. The Report Level option allows for the task assessments to be accessed at the task only level, at the task and designated subordinate levels (1-a; 1-a-1; etc.), or at the task and all subordinate elements. The Missions option displays assessments according to ground mission description, such as defend, deliberate attack, etc. The Training Day option identifies all assessments by rotation day, cumulative assessments up to a specific training day, and for all training days in a rotation. The Unit option simply identifies the unit's that were assessed and Rotation identifies the CTC rotation. The OC option identifies the CTC observer/controller by position (call sign) who made the assessment. Figure 8 shows the six query selection options.

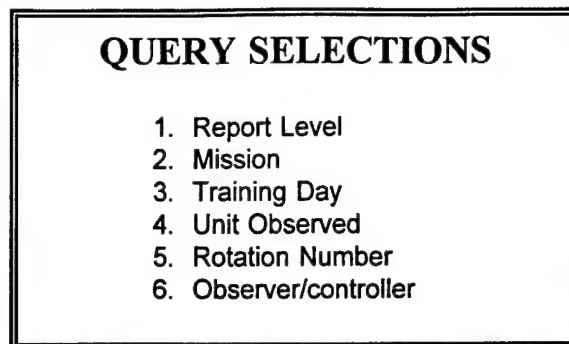


Figure 8. Process Query Selection Options

2. OUTCOME MEASURES

a. Reports:

There are four outcome report formats: Comment Summary, Mission Summary, Day Summary, and Rotation Summary. The Comment Summary is a listing of all remarks made by training cadre in reference to an outcome measure. Mission Summary is the outcome assessments for a single air mission. Day Summary is a rollup of all air missions assessments conducted during a ground mission. Rotation Summary is a cumulative assessment for all air missions conducted during a rotation. Figure 9 lists the Outcome Report Selections.

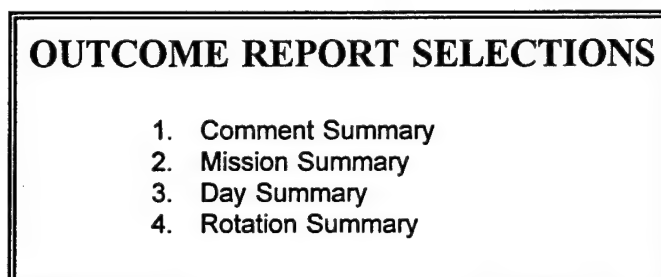


Figure 9: Outcome Selection options for outcome measures.

b. Query Selections:

As with the Process Reports, the Outcome Query Selections provide administrative information associated with the outcome reports for research and data tracking purposes. Figure 10 depicts the three categories included in this option.

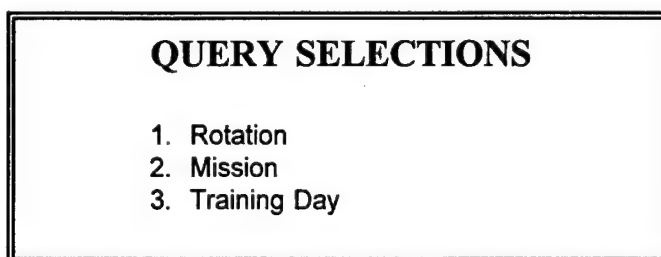


Figure 10. Process Query Selection Options

VIII. FIELD VERIFICATION

A. CONDUCT OF THE TRYOUT

A field tryout of the Air Ground Training Feedback System was conducted at the Joint Readiness Training Center in March 1994 (Huffman, 1994). Its purpose was to confirm the appropriateness of the tasks and determine the viability and acceptability of the system within that training environment.

The task lists were organized by component (ground maneuver, TACP, and AFAC) and by echelon (brigade and battalion). Both paper based task books (reduced to fit uniform cargo pockets) and ECIs were available for use. The OCs universally used the paper instruments. The ground maneuver task lists were organized by six maneuver functions: Intelligence, operations, fire support, aviation, air defense, and signal. A task book was provided to each OC responsible for each function. The TACP tasks were completed by the Air Warrior II OCs at Fort Polk. At the time of the tryout, the AWII team was understaffed and unable to provide comprehensive coverage of TACP operations. Additionally, they were heavily committed to a night JAAT field test held during the middle of the rotation. Hence, much of the information used to complete the task lists had to be derived from debriefings after the missions. The AFAC task lists were completed by the AFACs in concert with Air Warrior II cadre following each mission.

OCs were instructed to use one of seven measures to assess each task. The assessment measures and a description of each is shown in Figure 11. Each major task was followed by a remarks section for any additional comments or explanation of the assessment. The OCs were told to make comments on tasks regarding not only how well they were done but their applicability and appropriateness. An example of a task in the format used by the OCs for the field tryout is shown in Figure 12.

NOT DONE: Unit should have performed the task, but did not attempt to perform it.

NOT ADEQUATE: The unit did not perform the task to standard.

MARGINALLY ADEQUATE: The unit successfully performed the task with some shortcomings. The shortcomings were not severe enough to require complete retraining.

ADEQUATE: The unit successfully performed the task to standard. The performance was free of significant shortcomings.

SUPERIOR: The unit exceeded the standard by a significant margin.

NOT OBSERVED: Unit performed or attempted to perform the task, but the OC did not observe the performance or the outcome.

NOT APPLICABLE: The task is not performed by this type unit or, at this echelon, or does not apply to the battlefield operating system being evaluated by the OC or, is not relevant to the given mission.

Figure 11. Explanation of task assessment measures

TASK	MEASURES OF EFFECTIVENESS						
	not done	not adq	marg adq	adq	sup	obs	not n/a
Determine target ID procedures (MTP 71-3, task 71-3-9004; FM 6-20)	()	()	()	()	()	()	()
a. S3/FSO, in conjunction with the ALO/TACP, determine target marking procedures.	()	()	()	()	()	()	()
b. Consider the utility of using target marking methods such as laser, smoke, tracers, or target description.	()	()	()	()	()	()	()
c. Identify easy to locate terrain features.	()	()	()	()	()	()	()
d. Ensure distinction between target marking and method for marking friendly locations is understood.	()	()	()	()	()	()	()
Remarks:							

Figure 12. Example of task format used during the field tryout.

An initial plan to include outcome measures in the field tryout was abandoned when it became clear that it would be difficult, if not impossible, to gather the necessary information required for the complete assessment. Problems encountered in this area included lack of instrumentation, lack of assigned AWII personnel, and the diversion of resources to conduct the night JAAT test.

B. OPERATIONAL RESULTS

As a result of the situation at the JRTC only process assessments were made. The field test and subsequent analysis of the results (Huffman, 1994) caused some refinements in the task list. To determine the correctness of the list, each task and subordinate element of information was reviewed to determine whether or not it was applicable. Those that were deemed to be not applicable by training cadre were more closely analyzed to determine whether they should be deleted. This review caused a few sub-tasks to be removed, usually because they were conducted at an echelon higher than brigade level. Other tasks that were assessed as not applicable by JRTC cadre were retained because, although they are not applicable in the JRTC training environment, they are applicable in real operations.

For the field tryout, task lists for both battalion and brigade were assessed. Based on task assessments and OC comments at the JRTC, it became apparent that the brigade is the primary operational echelon for Army CAS operations. While this reflects Army fire support doctrine, it does not correspond with Marine doctrine where the primary operational echelon for CAS is the battalion. A summary list of all task assessments for the field tryout is in Appendix E. JRTC and Air Warrior II training cadre comments are listed in Appendix F.

IX. SYSTEMIC ISSUES

The Air-Ground Training Feedback System (AGTFS) is designed to assess joint operational processes and identify critical readiness shortfalls in the joint close air support arena. During the course of this study a number of systemic issues emerged that are fundamental to effective JCAS operations. The U.S. Army term DOTML (doctrine, organization, training, materiel, and leadership) identifies the major factors that influence operational readiness and provides a framework for exploiting the information gained from the AGTFS and other joint training and operational assessments. Some of these systemic issues are outlined in Joint Close Air Support (JCAS): An Assessment (Vermilyea, 1994).

In addition, two closely related areas emerged from this study that need review. First is the level at which JCAS is likely to be used, and second is the centralized planning necessary to implement CAS.

One recurring aspect of LIC operations is that tactical operations will be conducted at the company level. More importantly, these units are frequently going to be working independently, separated by terrain or distance from their parent organizations. While the potential for combat will be anticipated, the actual onset of fighting will be unexpected. Under these circumstances, it will not be uncommon for a unit in contact to have only JCAS available for supporting fires. Unfortunately, Army and Air Force organization does not sufficiently address this kind of situation. Air Force doctrine calls for CAS planning to be centralized at theater level. Army doctrine calls for fire support planning to be centralized at brigade. This structure may not be appropriately responsive to rapidly developing ground combat situations. In addition, the ground forces are almost certainly going to be untrained in how to control and employ CAS aircraft, whether they are from the Air Force, Marines, or Navy.

The Joint Task Force configuration provides a viable foundation to resolve some of these problems. If this is the way we intend to conduct LIC operations - with tailored force packages - then it might be worthwhile to train in the same manner. One aspect of this would be to provide companies, as needed, with attached personnel capable of employing CAS. Certainly, it would seem to be worthwhile to increase the flexibility of the present system and enhance the training level of those who are charged with implementing it.

X. CONCLUSION

The issue of joint close air support was approached with the intent of developing a system for improving training which would lead to enhanced CAS effectiveness and reduced probability of fratricide. In the course of this effort an Air-Ground Training Feedback System was developed and some systemic issues that distract from effective joint close air support were uncovered.

The Air-Ground Training Feedback System addressed the issue through three elements. Outcome measures sought to identify what happened in a specific mission and provide a quantifiable criteria for an effectiveness assessment. Process measures were designed to identify why it happened and provide specific sequential actions necessary for the successful implementation of close air support. The database structure provides a tool for organizing and synthesizing the information acquired from the process and outcome measures into a useable format for issues analysis, identification of short and long term trends, and for inter- and intra-service training applications. In short, this system allows for the continuous feedback to the close air support community of lessons learned and potential remedies that have been identified in a field tactical environment.

In the process of analyzing the doctrinal tactics, techniques, and procedures for all services it became clear that a variety of factors are having an adverse impact on joint close air support capabilities and readiness. While a close examination of these factors is beyond the scope of this project, some of these issues are so fundamental that they could not be ignored. Close air support is a joint event, yet doctrine and training remain largely stovepiped within each service. Joint doctrinal publications such as Joint Pub 3-09.3, schools such as the Air Ground Operations School, and training such as conducted between Air Warrior and the Combat Training Centers, are steps in the right direction but it is evident that these efforts should be expanded.

There are a number of initial steps which must be taken to enhance the effectiveness of joint close air support. First, the efforts already underway to integrate doctrine into a joint focus should continue at an accelerated pace. Second, training conducted at the Combat Training Centers should be expanded to include Marine and Navy assets. Third, the Air Ground Training Feedback System should be installed at the field training sites, to include the Combat Training Centers, to provide an assessment tool of current procedures and evolving doctrine. Fourth, the results of these assessments should be incorporated into individual and unit close air support training. Finally, the training base should be expanded to provide a greater awareness and understanding of joint close air support.

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APPENDIX A

Ground Maneuver Task List

This appendix lists the critical battle tasks performed by ground maneuver units to assure integration and synchronization of close air support with the conduct of the ground operations. The Army model is used to develop the ground maneuver task list because it is the most complex and demanding of the two ground force components (Army and Marine). This task list addresses the echelon of brigade/regiment.

The tasks are organized in a plan, prepare, execute format and in the general sequence in which they would be done. Tasks are identified by task number and include associated Army Mission Training Plan tasks and/or doctrinal reference. Each task is supported by elements of information which defines the scope of the activity.

All tasks are organized in the general order they are accomplished. Some tasks are done in sequential order while others are done concurrently. These relationships are depicted in the task flow charts in Appendix D. All ground maneuver tasks are designated with the letter "M" in front of the task number.

GROUND MANEUVER

PLANNING

- M1. **Conduct mission analysis** (MTP Task 71-3-3001; FM 101-5; FM 71-123)
 - a. Determine specified tasks.
 - b. Determine implied tasks.
 - c. Determine area of operations (sector/zone).
 - d. Determine available time.
- M2. **Determine the commander's intent** (MTP Task 71-3-9001; FM 101-5; FM 71-123)
 - a. Commander provides his intent for fire support.
 - b. Commander's intent includes intent for CAS.
- M3. **S2 prepares Intelligence Estimate** (MTP Task 71-3-2001; FM 34-1; FM 71-123)
 - a. Perform IPB and identify all available information and intelligence on enemy forces, terrain, and weather.
 - b. Utilize air intelligence sources.
 - 1) Determine availability of air intelligence assets in addition to normal resources.
 - 2) Request continuous flow of combat information from aircraft to S2.
 - c. Ensure continuous flow of new intelligence to the Air Liaison Officer.
 - d. Request G2 input on deep enemy ADA threat.
- M4. **S2 analyze the terrain** (MTP Task 71-3-2001, 2003; FM 34-1; FM 71-123)
 - a. Identify ground avenues of approach, choke points, and obstacles.
 - b. Identify air avenues of approach.
 - c. Provide weather data.
 - d. Determine impact of weather on enemy ADA.
- M5. **S2 analyze the enemy situation** (MTP Task 71-3-2001, 2003, 2005; FM 34-1; FM 71-123)
 - a. Determine size, disposition, location, and organization of enemy forces.
 - b. Identify potential courses of action.
- M6. **S3 provide friendly situation** (MTP Task 71-3-3002, 3003, 3007, 3011, 9002; FM 71-123)
 - a. Identify and provide location of friendly forces beyond the Forward Line of Troops (FLOT)
 - b. Determine and provide location of the FSCL (Fire Support Coordination Line) and/or any other indirect fire restrictions, such as coordinated fire lines (CFL), unit battle positions (BP), or sector boundaries.
 - c. Identify Host country fire restrictive measures.
 - d. Provide friendly maneuver plan from higher headquarters and the tactical situation,

- M7. **Develop ground scheme of maneuver** (MTP Task 71-3-3001, 3002, 3004, 3009; FM 71-123)
- a. Establish maneuver restrictions, such as boundaries, axis of advance, and limitations.
 - b. Designate other applicable control measures on troop movement or disposition.
 - c. Designate engagement areas and areas with no friendly troops.
 - d. Identify locations of elements forward of the FLOT or operating independently (ie. scouts).
 - e. Designate methods of marking friendly troop locations (Glint tape, VS-17 panels, smoke, etc.)
 - f. Designate battle tracking methods to insure up to date knowledge of subordinate unit locations.
 - g. Designate trigger lines and decision points which activate CAS.
- M8. **Determine communication requirements** (MTP Task 71-3-1101; FM 71-123)
- a. Identify locations which provide continuous communications between ground and air forces.
 - b. Determine communications requirements between ground forces, fixed wing forces, and rotary wing forces.
 - c. Identify ground retransmission requirements.
 - d. Coordinate with TACP to use AFAC as communications relay, if necessary.
 - e. The Signal Officer develops and publishes an air-ground commo architecture based on the identified requirements of the A2C2 staff.
- M9. **Establish communications** (MTP Task 71-3-1102; FM 71-123)
- a. Insure receipt of fixed wing aircraft frequencies and provide them to rotary wing forces and others, as required.
 - b. Coordinate for, and ensure distribution of, authentication tables [KTC 1655 B for training and AKAC 1553 for operations] to ground and air force elements.
- M10. **Develop Air Defense Artillery control procedures** (MTP Task 71-3-3007, 6001, 6002; FM 71-123)
- a. Coordinate ADA operations with the S3.
 - b. Identify location and status of ADA elements in brigade area.
 - c. Identify ADA activation procedures (Early warning net to stinger teams).
 - d. Maintain current ADA status and monitor changes of status/control measures.
 - e. Identify air ingress/egress routes
 - f. Identify Restrictive Operation Areas (ROAs) and weapons free zones.
 - g. Establish aircraft return-to-force procedures
- M11. **Coordinate rotary wing employment** (MTP Task 71-3-3011, 3012, 7001; FM 1-100; FM 1-111; FM 71-123)
- a. Identify rotary wing tasks and plans.
 - b. Identify constraints/limitations in altitude and routes.
 - c. Determine capabilities, type aircraft, call signs, communications, and authenticators for coordination with ADA and ALO.
 - d. Identify Rules of Engagement (ROE).
 - e. Identify engagement areas.

- f. Identify critical locations, such as:
 - 1) Areas of operation and landing zones.
 - 2) Forward Arming and Refueling Points (FARP).
 - 3) Battle Positions (BP).
 - 4) Aerial observation positions (AOPs).
 - g. Identify Joint Air Attack Team (JAAT) specific considerations.
 - 1) Priority of fires.
 - 2) JSEAD operations.
- M12. **S2 determine enemy ADA threat** (MTP Task 71-3-2003, 2005; FM 71-123)
- a. Identify type and capabilities of enemy ADA systems (High or low threat).
 - b. Determine locations of enemy ADA systems.
 - c. Determine past and expected activities (movement/remain stationary) of enemy ADA systems.
 - d. Pass targeting data to S3/FSO for JSEAD planning.
- M13. **Develop fire support plan** (MTP Task 71-3-3009, 3012, 9001, 9002; FM 6-20; FM 71-123)
- a. FSO determines fire support capabilities, limitations, and coordinating measures.
 - b. ALO is part of the fire support team and advises on air capabilities and limitations.
 - c. FSO and ALO coordinate on aircraft availability, munitions, capabilities, and effects.
 - d. FSO plans for continuous CAS missions.
 - e. FSO includes CAS in the fire support execution matrix.
 - f. Fire support control measures are established.
 - 1) Battle positions for attack helicopters.
 - 2) CAS engagement areas (EA).
 - 3) Other measures, such as FSCL, restrictive fire line (RFL), coordinated fire line (CFL), no-fire area (NFA), and restrictive fire area (RFA), are established as appropriate.
 - g. Indirect fire assets are positioned where they will not interfere with air routes and/or field landing strip operations.
 - h. The following information is identified and maintained:
 - 1) Location of indirect fire assets.
 - a) Artillery guns.
 - b) Multiple Launched Rocket Systems.
 - c) Mortars.
 - d) Movement sequence (timing and new locations).
 - 2) Capabilities of indirect fire assets.
 - 3) Missions and planned targets.
 - 4) Sequence of engagement.
 - 5) Air Coordination Areas (ACAs).
 - 6) JAAT considerations.
- M14. **A2C2 element identify or develop air control measures** (MTP Task 71-3-3012, 3013, 602, 7001, 9002; FM 100-103; FM 71-123)
- a. Identify area for which the brigade is responsible (vertical, left, and right limits).

- b. Identify users of the airspace and their requirements (fixed wing, rotary wing, artillery, ADA, etc.).
 - c. Identify areas impacting on air operations.
 - 1) Aviation unit locations (routes, lift and attack operations).
 - 2) Locations and planned fires for indirect fire assets (artillery, mortars, and Naval gunfire).
 - 3) UAV (Unmanned Air Vehicle) AOs, launch and recovery sites, and flight paths.
 - 4) ADA locations, engagement zones, and coverage.
 - 5) Positions of instrument landing systems, navigation aids (NAVAID), flight coordination center (FCC), and flight operations center (FOC).
 - d. Identify user priorities, restrictions, and control measures, such as coordinating altitude (from above ground level (AGL))
 - e. Identify specific Rules of Engagement (ROE) that apply to CAS/air operations, such as restrictions and constraints involving civilian airline routes, no fly zones, etc.
 - f. Identify or designate the following areas:
 - 1) High density airspace control zone (HIDACZ).
 - 2) Restricted Operations Zones (ROZ).
 - 3) Air ingress/egress routes.
 - 4) Airspace Coordination Areas (ACA).
 - 5) Contact Points/Initial Points (CP/IP).
 - 6) Helicopter air corridors.
 - 7) Minimum Risk Routes (MRR).
 - 8) Engagement Areas (EA).
 - g. Designate ROZs for air resupply areas/times for both air drop and landing operations.
- M15. Plan JSEAD (Joint Suppression of Enemy Air Defenses) (MTP Task 71-3-2006, 3004, 9001, 9002; FM 71-123)**
- a. Utilize S2's enemy ADA targeting data.
 - b. Determine level of suppression.
 - c. Determine type of JSEAD available (Artillery, CAS, rotary wing).
 - d. Integrate JSEAD with adjacent units.
- M16. Analyze targets (MTP Task 71-3-2003, 2006, 3004, 9003, 9004; FM 6-20)**
- a. Determine the best method to defeat enemy targets.
 - 1) Determine constraints.
 - 2) Determine target type
 - 3) Match munitions to type targets.
 - 4) Identify targets appropriate to aircraft munitions.
 - b. ALO recommends targets for CAS attack.
 - c. Identify JSEAD targets.
 - 1) Identify suppression measures.
 - 2) Designate best weapon system to achieve suppression.
 - d. Establish engagement criteria.
 - e. Determine methods to identify enemy targets.
 - f. FSO coordinate with ALO on number and type of aircraft/munitions.

- M17. **Determine ground priority targets** (MTP Task 71-3-3005; FM 71-123)
- a. S3/FSO establish target priorities.
 - b. FSO incorporates ALO recommendations on priorities for air attack.
- M18. **Continuously Analyze Intelligence Developments** (MTP Task 71-3-2003, 2006; FM 71-123)
- a. Integrate all available strategic and higher echelon information and intelligence from all sources.
 - b. Integrate information and intelligence from own unit's assets, such as:
 - 1) Reconnaissance elements/scout platoon.
 - 2) Ground assets/maneuver units.
 - 3) Immediate tactical information observed by aircraft in the area.
 - 4) Other available assets.
 - c. Disseminate targetable information to the FSE.
- M19. **Initiate Close Air Support (CAS) request** (MTP Task 71-3-3004, 3009; FM 90-21; FM 6-20)
- a. Request supports ground scheme of maneuver.
 - b. Request supports fire support plan.
 - c. Request conforms to intelligence picture.
 - d. FSO, in concert with ALO, identifies preplanned air requirements and prepares request to be submitted through fire support channels.
 - e. If preplanned, request contains desired air control measures for inclusion in the ACO (ROZs, no fire areas, etc.).
 - f. If immediate CAS: FSO/ALO ensures request contains information necessary to identify requestor; priority; target type, size, and location; time required and desired results.
- M20. **Determine what air is planned** (MTP Task 71-3-3004)
- a. S3 section obtains information from the ALO on planned air sorties.
 - b. S3 section receives information on:
 - 1) Aircraft, capabilities, and munitions.
 - 2) When and how long aircraft will be available.
 - 3) EW assets and capabilities.
 - 4) Projected air SEAD coverage, such as Weasel.
- M21. **Determine target identification procedures** (MTP Task 71-3-9004; FM 6-20)
- a. Designate target marking methods such as laser, smoke, tracers.
 - b. Identify easy to locate terrain features.
 - c. Ensure distinction between target marking and method for marking friendly locations is understood.
- M22. **Integrate CAS with Unit Synch Matrix** (MTP Task 71-3-3004, 3009, 9002; FM 6-20)
- a. CAS plan conforms with Decision Support Template.
 - b. CAS is synchronized with scheme of maneuver.
 - 1) Timing.
 - 2) Command or event driven sequence.

- c. CAS is synchronized with fire support plan.
 - 1) Timing.
 - 2) Command or event driven sequence.
 - 3) Targets.
 - d. CAS is synchronized with rotary wing operations.
 - 1) Timing.
 - 2) Battle positions.
 - 3) Engagement areas.
- M23. **Develop contingency plans** (MTP Task 71-3-3009, 9003, 9004; FM 6-20; FM 71-123)
- a. Identify secondary targets for CAS.
 - 1) Identify alternate engagement areas.
 - 2) Prepare for second echelon engagement.
 - b. Identify back-up communications
 - c. Coordinate for emergency control of CAS in event of ALO/ETAC loss.
 - d. Confirm FSO/FO ability to control CAS in emergency.
 - e. FSO plans alternate means to engage CAS targets.
- M24. **Organize for combat** (MTP Task 71-3-3001, 3002; FM 71-123)
- a. Establish sequence of command in case of losses.
 - b. Determine position of Air Liaison Officer within the command group.
 - c. Identify CAS final control authority.

PREPARATION

- M25. **Confirm aircraft allocation** (MTP Task 71-3-3004, 3009)
Information on type aircraft, arrival times, munitions, and number of sorties/station time is confirmed as early as possible.
- M26. **Fire Support Element confirms integration of CAS** (MTP Task 71-3-3004, 3009, 9002; FM 6-20)
- a. CAS plan is incorporated into the indirect fire plan and included in the fire support execution matrix.
 - 1) Sequence of attack.
 - 2) Timing.
 - 3) Engagement areas.
 - 4) Targets.
 - b. Masking of indirect fires is minimized.
 - c. CAS target list is appropriate for air engagement.
 - d. ALO and CAS are integrated into fire support rehearsals.
- M27. **Confirm airspace control measures** (MTP Task 71-3-3012, 3013, 6002, 7001, 9002; FM 6-20)
- a. Review Airspace Control Order and identify any changes to initial plan.
 - b. Identify local airspace restrictions for areas, altitude, times, and routes.
 - c. Confirm ROZs for rotary wing operations (FARPs, BPs, etc.).
 - d. Monitor status of airfields and confirm ROZs for air routes, air drop, and field landing strip resupply operations.
 - e. Confirm no fire areas due to ROE or friendly ground force operations.
 - f. Confirm ADA restricted operations areas (ROAs), weapons free zones, and weapons control status.
- M28. **Confirm communications** (MTP Task 71-3-1102; FM 71-123)
- a. Confirm that the proper frequencies are distributed to all affected forces. b. Confirm distribution of proper authentication tables [KTC 1655 B for training, AKAC 1553 for operations] to all affected units
 - c. Signal Officer confirms that all elements (ALO/FS/AVN) understand the A2C2 communications architecture and plan, to include primary and back-up/alternate means.
 - d. Conduct communications check and confirm communications capability with air and ground forces.
- M29. **Deconflict airspace** (MTP Task 71-3-3012, 3013, 6002, 7001, 9002; FM 100-103; FM 6-20)
- a. The brigade plan minimizes potential fratricide situations.
 - b. The brigade plan minimizes the masking of fires for all elements.
 - c. Plan provides for reaction to aircraft ingressing and egressing the AO.

- d. Confirm that all the following assets are operating in concert:
 - 1) CAS.
 - 2) Helicopters (attack, lift, and scout).
 - 3) Indirect fires (artillery, mortars, and naval gunfire).
 - 4) ADA.
 - 5) UAV.
 - 6) C-130
- e. FSO overlays indirect fire asset data (locations, gun target lines, etc.) on ACO measures to ensure deconfliction.

EXECUTION

M30. Maintain Communications [FSO] (FM 71-123, Chap. 1, Sec III)

- a. Continuous communication is maintained between task force elements.
- b. All elements take prompt action to restore lost communications.
- c. All affected forces have the proper authentication tables.

M31. Conduct Continuous Battle Tracking [S2/S3] (FM 71-123, Chap. 1, Sec IV)

- a. The TOC continuously monitors the tactical situation.
- b. The TOC knows the location of all friendly elements.
 - 1) Positions of units on the FLOT.
 - 2) Locations of forward elements (Scouts).
 - 3) Locations of supporting forces (GSR, ADA, Eng).
- c. Marking procedures for friendly elements are confirmed.
- d. The TOC and command group knows the current enemy situation.
 - 1) Enemy disposition.
 - 2) Locations of enemy weapon systems (tanks, APCs, ADA).

M32. Analyze Combat Information [S2] (FM 34-3, Chap 6)

- a. Pilot observations and BDA are incorporated into intelligence analysis.
- b. The situational template is updated and verified based on new information.
- c. The event template is adjusted to conform to the updated situational template.
- d. Enemy dispositions, capabilities, and intent are confirmed.
- e. Combat information and intel updates are disseminated to all forces.

M33. Execute Fire Support Plan [FSO] (FM 6-20-40, Chap 4)

- a. Maintain command and control of all fire support assets.
- b. Commander informed on:
 - 1) CAS target types and locations.
 - 2) Time of air attacks.
 - 3) Type munitions.
 - 4) Location of closest friendly units.
- c. The timing of movement and new locations of repositioned indirect fire assets are known.

M34. Implement Fire Support Coordination Measures [FSO] (FM 6-20-40, App F)

- a. Supporting fires are correctly executed in accordance with:
 - 1) Fire support execution matrix.
 - 2) Commanders directives.
- b. Supporting fires are integrated with:
 - 1) Actions by maneuver forces.
 - 2) Rotary wing operations.
 - 3) CAS operations.

- M35. Implement fratricide prevention measures [CDR/S3] (FM 6-20-40, App F)**
- a. Friendly unit marking procedures are confirmed.
 - b. Targets are positively identified and marked.
 - c. Friendly units are informed of impending CAS missions.
 - d. Commander gives TACP clearance for attack.
 - e. ADA notified of impending CAS missions.
- M36. Control Air Defense Forces [ADO] (FM 71-123, Chap. 7)**
- a. Air defense forces maintain continuous contact with supported forces.
 - b. Air defense forces react correctly to changing tactical situation.
 - c. Air defense elements monitor the air defense net.
 - d. All ADA elements are aware of friendly air missions
- M37. Execute JSEAD [FSO] (FM 6-20-40, App A; FM 1-111, Chap 4-1)**
- a. Designated enemy ADA assets are neutralized.
 - b. JSEAD effort is synchronized with rotary wing operations.
 - c. Appropriate air SEAD assets are incorporated into JSEAD effort.
- M38. Synchronize Indirect Fires with JAAT Effort [FSO] (FM 6-20-40, App A; FM 1-111, App G)**
- a. Fire control measures for indirect, rotary, and fixed wing assets are confirmed.
 - b. Indirect, rotary wing, and fixed wing fires are massed on designated targets.
 - c. Indirect fire target lines and air attack routes do not conflict with each other.
 - d. Indirect fires complement and support air attacks.
- M39. Execute Fire Support Contingency Plan [FSO] (FM 6-20-40, Chap. 2)**
- a. Alternate command and control measures are implemented.
 - b. Alternate fire support means are used to engage air targets when aircraft delayed.
 - c. The sequence and timing of fires are appropriately adjusted to compensate for unexpected developments.

APPENDIX B

Tactical Air Control Party Task List

This appendix lists the Tactical Air Control Party (TACP) tasks that are necessary for the successful accomplishment of close air support. The tasks are organized in a plan and prepare format and are in the general sequence in which they would be done. Execution tasks are combined with AFAC execution tasks and appear in Appendix C. Task relationships are depicted in the task flow charts in Appendix D. All TACP tasks are designated with the letter "G" in front of the task number. The tasks are identified by task number and include associated doctrinal references. Each task is supported by elements of information which defines the scope of the activity.

The Air Force model is used to develop the task list because it is more complex and demanding than the streamlined Marine Corps structure. Air Force TACP teams are *attached* to Army ground forces and consist of an ALO, a FLO, a TALO, and three ETACs at brigade and an ALO and two ETACs at battalion. Marine TACP teams are *assigned* to Marine ground forces and normally operate one echelon down from the Army-Air Force organization. Each Marine battalion has a TACP team which consists of one AO and two FACs which are routinely attached down to company level. See Section III-C for a more detailed discussion.

Although there are systemic differences among services (See Section IX for a detailed discussion), this task list reflects those actions which must be conducted by the TACP. Once identified, all tasks were crosswalked between Air Force and Marine Corps published tactics, techniques, and procedures and source documents from both services are listed with each task.

TACP (TACTICAL AIR CONTROL PARTY)

PLANNING

- G1. Conduct mission analysis (MCM 3-3, Vol VIII; FMFM 6-18)**
 - a. Determine specified tasks.
 - b. Determine implied tasks.
 - c. Determine area of operations (sector/zone).
 - d. Determine available time.
 - e. Identify specific Rules of Engagement (ROE) that apply to CAS/air operations.
- G2. Determine the commander's intent (MCM 3-3, Vol VIII; FMFM 3-1)**
 - a. Understand the purpose of the mission.
 - b. Understand commander's intent for CAS.
- G3. Coordinate with S2 (MCM 3-3, Vol VIII; FMFM 3-1; FMFM 6-18)**
 - a. Identify all available information and intelligence on the following:
 - 1) Enemy forces.
 - 2) Terrain.
 - 3) Weather.
 - b. Determine what air intelligence assets are available.
 - c. Ensure continuous flow of combat information from aircraft to the S2.
- G4. Analyze the terrain (MCM 3-3, Vol VIII; FMFM 6-18)**
 - a. Evaluate terrain from both enemy & friendly perspective
 - b. Determine ground avenues of approach, choke points, and obstacles.
 - c. Identify air avenues of approach.
 - d. Determine the impact of weather on air operations.
 - e. Identify physical control features.
 - f. Determine the impact of the sun/moon angle on air operations.
 - g. Determine the elevation of targets in feet.
- G5. Analyze the enemy situation (MCM 3-3, Vol VIII; FMFM 3-1)**
 - a. Determine size, disposition, location, and organization of enemy forces.
 - b. Identify current and anticipated enemy ADA capabilities, locations, and activities.
 - c. Identify potential courses of action.
- G6. Analyze friendly situation (MCM 3-3, Vol VIII; FMFM 5-41; FMFM 6-18)**
 - a. Confirm maneuver unit battle tracking and verify up to date knowledge of location of all subordinate elements.
 - b. Identify location of forward elements, Forward Line of Troops (FLOT) if applicable.
 - c. Determine location of indirect fire assets, to include artillery, mortars, and Naval gunfire.
 - d. Identify helicopter areas of operation (AO), to include routes, lift, and attack operations.

- e. Identify UAV (Unmanned Air Vehicle) AO.
 - f. Determine location of the FSCL (Fire Support Coordination Line) and/or any other indirect fire restrictions, such as coordinated fire lines (CFL) or unit battle positions (BP).
 - g. Coordinate with S3 on friendly plan, tactical situation, choke points, trigger points for air requests, timing of battle, and how he is tracking unit locations, etc.
 - h. Conduct map/photo study of area of operations
- G7. Analyze ground scheme of maneuver** (MCM 3-3, Vol VIII; TAC Pam 50-22; FMFM 3-1; FMFM 6-2)
- a. Identify forward line of troops (FLOT) and/or battle positions (BP).
 - b. Identify location of elements forward of the FLOT or operating independently (ie. scouts).
 - c. Identify methods of marking friendly troop locations (Glint tape, VS-17 panels, smoke, etc.)
 - d. Identify engagement areas (EA) (designated areas with no friendly troops).
 - e. Identify maneuver restrictions, such as boundaries, axis of advance, and limitations.
 - f. Identify other control measures on troop movement or location, as required.
 - g. Determine how to ensure "eyes on target and friendlies" is accomplished (ie. ETAC forward with scouts, etc.).
- G8. Determine communication requirements** (MCM 3-3, Vol VIII; TAC Pam 50-20; FMFM 5-41; FMFM 6-18)
- a. Identify locations which provide continuous communications with ground and air forces.
 - b. Determine communications requirements among all ground forces, fixed wing forces, and rotary wing forces operating in the AO.
 - c. Identify ground retransmission requirements.
 - d. Coordinate/control communications with the AFAC to avoid over tasking if necessary to use as a communications relay.
 - e. Develop air communication contingency plan.
 - 1) HAVE-Quick (TOD, Mickey) frequency jumping equipment.
 - 2) Chattermark (pre-determined alternate frequencies).
- G9. Establish communications** (MCM 3-3, Vol VIII; TAC Pam 50-20)
- a. Ensure air force frequencies in ATO are provided to army aviation.
 - b. Coordinate/ensure distribution of authentication tables [KTC 1655 B for training, AKAC 1533 for operations].
 - c. Conduct full commo check with all command and control elements among the ground and air forces
 - d. Consider using ETAC with portable UHF in helicopter with AVN Air Battle Captain.
- G10. Coordinate Air Defense Artillery control procedures** (TAC Pam 50-20; FMFM 5-60)
- a. Identify Air Defense Artillery (ADA) activation procedures (FM early warning net to stinger teams).
 - b. Identify ADA change of status procedures.

- c. Identify air ingress/egress routes.
 - d. Identify, and provide for, notification procedures for friendly air on station in the absence of a communications link between air controllers (TACP) and ADA sections.
 - e. Coordinate, and provide information on, aircraft types, flight schedules, and routes (20 minute warning).
 - f. Establish return-to-force procedures.
- G11. Coordinate with Rotary Wing Forces (TAC Pam 50-20; FM 1-111; FMFM 5-41)**
- a. Identify rotary wing responsibilities, tasks and plans.
 - b. Identify constraints/limitations in altitude and routes.
 - c. Determine capabilities, type aircraft, callsigns, communications, and authenticators.
 - d. Identify engagement areas.
 - e. Identify critical locations, such as:
 - 1) Landing zones.
 - 2) Forward Arming and Refueling Points (FARP).
 - 3) Battle Positions (BP).
 - 4) Aerial observation positions (AOPs).
 - f. Identify Joint Air Attack Team (JAAT) specific considerations.
 - g. Identify fixed/rotary wing integration requirements.
 - h. Coordinate for a Helo-FAC, assistant ALO/ETAC in aircraft with AVN Air Battle Captain. (Bde and Bn TACP coordinate to provide for necessary personnel and joint use.).
- G12. Determine enemy ADA threat (MCM 3-3, Vol VIII; TACP Pam 50-20; FMFM 5-41; FMFM 5-70)**
- a. Identify type and capabilities of enemy ADA systems (high and low threat)
 - b. Determine location of enemy ADA systems.
 - c. Plot danger zones for stationary ADA sites.
 - d. Determine past and expected activities (movement/remain stationary) of enemy ADA systems.
- G13. Review air capabilities and priorities (TAC Pam 50-20; FM 6-20; FMFM 3-1; FMFM 5-41)**
- a. Brief ground commander on air capabilities and limitations.
 - b. Brief FSO on aircraft, weapons capabilities, limitations, controls, lead times, and request channels.
 - c. Confirm commander's intent and guidance on CAS.
 - d. Nominate appropriate targets for air munitions.
 - e. Air target selection priorities support both aircraft survival and the ground maneuver plan.
 - f. Target priorities conform with the ground fire support plan.
- G14. Analyze fire support plan (MCM 3-3, Vol VIII; FM 6-20; FMFM 6-18)**
- a. ALO is part of the fire support team.
 - b. ALO and FSO coordinate on aircraft availability, munitions, capabilities, and effects.

- c. ALO recommends appropriate target sequence and CAS is included in the fire support execution matrix.
- d. Primary concept for control measures in LIC is to separate artillery and CAS by time for the same target or by terrain feature for simultaneous delivery on different targets.
- e. Fire support control measures are established.
 - 1) Battle positions for army aviation.
 - 2) Engagement areas (EA) identified by terrain features for CAS.
 - 3) Other measures, such as FSCL, restrictive fire line (RFL), coordinated fire line (CFL), no-fire area (NFA), and restrictive fire area (RFA) established as appropriate.
- f. The following information is identified:
 - 1) Location of indirect fire assets.
 - a) Artillery guns.
 - b) Multiple Launched Rocket Systems.
 - c) Mortars.
 - 2) Capabilities of indirect fire assets.
 - 3) Missions, planned targets, and gun-target lines.
 - 4) Sequence of engagement.
 - 5) Movement sequence (timing and new locations).
 - 6) ACAs.
 - 7) JAAT considerations.

G15. Plan JSEAD (Joint Suppression of Enemy Air Defenses) (TAC Pam 50-20; FMFM 5-45)

- a. Identify enemy ADA systems known and probable locations.
- b. Determine type of suppression desired.
- c. Determine type of JSEAD available; air, artillery, army aviation, naval gunfire, EW, COLT laser team support, etc.
- d. Integrate JSEAD with adjacent units.

G16. Identify air control measures (MCM 3-3, Vol VIII; ATP 40; FM 100-103; FMFM 5-41)

- a. Confirm coordinating altitude (from above ground level (AGL))
- b. Confirm air ROE.
- c. Identify and locate civilian airline routes.
- d. Determine restrictions and constraints such as "no fly zones".
- e. Identify or designate the following areas:
 - 1) High density airspace control zone (HIDACZ).
 - 2) Restricted Operations Zones (ROZ).
 - 3) Air ingress/egress routes.
 - 4) Airspace Coordination Areas (ACA).
 - 5) Contact Points/Initial Points (CP/IP).
 - 6) Attack Position (AP)
 - 7) Helicopter air corridors.
 - 8) Minimum Risk Routes (MRR).
 - 9) Engagement Areas (EA).
- f. Identify/designate ROZs for air resupply areas/times for both air drop and air land

operations.

- G17. Determine risk to Airborne Forward Air Controller (MCM 3-3, Vol VIII; FMFM 5-41; FMFM 6-18)**
- a. Determine risk to Airborne Forward Air Controller (AFAC) during the following:
 - 1) Target observation.
 - 2) Target marking.
 - 3) Holding pattern.
 - b. Identify AFAC position in relation to the enemy ADA threat.
 - 1) Distance (range).
 - 2) Systems capabilities.
 - c. Identify AFAC position in relation to friendly forces.
 - 1) ADA.
 - 2) Gun target lines.
 - 3) Air routes.
 - d. Confirm appropriateness of the AFAC altitude and holding pattern area.
- G18. Analyze targets (TAC PAM 50-20; FM 6-20; FMFM 6-18)**
- a. Identify enemy locations.
 - b. Determine target type.
 - c. Determine the best method to defeat enemy targets.
 - 1) Determine constraints imposed by munitions available and ROE.
 - 2) Match munitions to type targets.
 - d. Identify appropriate JSEAD requirements.
 - e. Identify necessary suppression measures and appropriate suppression systems.
 - f. Determine the impact of weather on air operations.
 - g. Confirm engagement criteria.
 - h. Determine methods to identify friendly locations.
 - i. On receipt of ATO information, ALO/FSO coordinate immediate 12 hour period and identify:
 - 1) Number and type of aircraft and munitions.
 - 2) Targets appropriate to aircraft and munitions.
- G19. Determine ground priority targets (MCM 3-3, Vol VIII; FMFM 5-41)**
- a. S3/FSO establish target priorities.
 - b. ALO recommends priorities for air attack.
 - 1) Identify target type and munitions.
 - 2) Integrate target with threat to friendly forces, determining risk to air assets and risk of fratricide.
- G20. Identify Initial Point (MCM 3-3, Vol VIII; FMFM 5-41)**
- a. Identify location.
 - 1) Appropriate distance from threat.
 - 2) Easy to identify.
 - b. Determine holding altitude.
 - c. Confirm deconfliction of IP from gun target lines .
 - d. Confirm communication capabilities.

- G21. Continuously Analyze Intelligence Developments (TACM 3-1 VI; FMFM 2-1)**
- a. Integrate strategic and higher echelon information and intelligence from all sources, primarily Div/Corps G2.
 - b. Integrate information and intelligence from own unit's assets, such as:
 - 1) Reconnaissance elements/scout platoon.
 - 2) Ground assets/maneuver units.
 - 3) Ensure S2 receiving immediate tactical information observed by aircraft in the area.
 - 4) Other available assets.
 - c. Brigade TACP gathers information/intelligence and disseminates to other TACPs.
- G22. Initiate Close Air Support (CAS) request (FM 90-21; FMFM 5-41)**
- a. Request supports ground scheme of maneuver.
 - b. Request supports fire support plan.
 - c. Request conforms to intelligence estimate.
 - d. ALO identifies preplanned air requirements and prepares request for FSO/S3 Air to transmit.
 - e. If preplanned, request contains desired air control measures for inclusion in the ATO (ROZs, no fire areas, etc.).
 - f. If immediate CAS, S3/ALO ensures request contains information necessary to identify requestor; priority; target type, size, and location; time required and desired results.
- G23. Determine what air is planned (MCM 3-3, Vol VIII; 5-41)**
- a. TACP receives information on planned air sorties from the ATO.
 - b. Determine type of aircraft, capabilities and munitions.
 - c. Determine when the aircraft will arrive and how long aircraft will remain on station.
 - d. Determine Electronic Warfare (EW) capabilities.
 - e. Determine projected sortie allocation.
- G24. Determine what air is available (MCM 3-3, Vol VIII; FMFM 5-41)**
- a. Based on the ATO and communications with higher, the TACP identifies all aircraft available in the area during the needed timeframe .
 - b. Determine type aircraft, capabilities, and munitions.
 - c. Determine when and how long aircraft will be available.
 - d. Determine EW assets and capabilities.
 - e. Determine air priority of effort in the AO.
 - f. Determine projected suppression coverage (JSEAD and Weasel).
 - g. TACP identifies aircraft on the way (2 hours out) and coordinates with S2/FSO on target types and locations, A/C and munitions, and enemy ADA.
- G25. Determine target identification procedures (TAC Pam 50-28; FM 6-20; FMFM 5-41; FMFM 6-18)**
- a. Determine target marking procedures.
 - b. Determine the utility of using target marking methods, such as laser, smoke, tracers, or target description.
 - c. Identify easy to locate terrain features.
 - d. Ensure distinction between target marking and method for marking friendly locations is understood.

- G26. **Develop contingency plans** (TACM 3-1 VI, FM 6-20; FMFM 5-41)
- a. Identify secondary targets for CAS.
 - 1) Identify alternate engagement areas.
 - 2) Prepare for second echelon engagement.
 - b. Identify back-up communications (ie. fire support net/radios, relay to AFAC on FM, etc.)
 - c. Coordinate for emergency control of CAS in event of ALO/ETAC KIA.
 - d. Determine FSO/FO ability to control CAS in emergency.
 - e. Identify free drop areas
- G27. **Organize for combat** (MCM 3-3, Vol VIII; FMFM 3-1)
- a. Establish sequence of command in case of casualties.
 - b. Identify locations for TACP elements that provide for observation of target area.
 - 1) AFAC.
 - 2) GFAC.
 - 3) Flight lead control.
 - c. Identify locations provide uninterrupted communication with air and ground forces.
 - d. Determine position of Air Liaison Officer within the command group for close coordination with the commander.
 - e. Identify CAS final control authority.
- G28. **Designate subordinate responsibilities** (MCM 3-3, Vol VIII; FMFM 3-1)
- a. Confirm responsibilities for battalion TACPs.
 - b. Confirm required actions of the Brigade TACP.
 - c. Ensure any special instructions are disseminated to all subordinate elements.
 - d. Confirm that all subordinates are capable of fulfilling their assigned responsibilities.

PREPARATION

- G29. **Confirm aircraft allocation** (MCM 3-3, Vol VIII; TACM 55-46; FMFM 5-41)
- a. The following information is confirmed as early as possible:
 - 1) Type of aircraft.
 - 2) When the aircraft will arrive.
 - 3) Munitions.
 - 4) Number of sorties and station time.
 - b. Confirm aircraft on station time or loiter time.
- G30. **Confirm CAS integration with Unit Synch Matrix** (FM 6-20; FMFM 5-41; FMFM 6-18)
- a. CAS plan conforms with Decision Support Template.
 - b. CAS is synchronized with scheme of maneuver.
 - 1) Timing.
 - 2) Command or event driven sequence.
 - c. CAS is incorporated into the fire support execution matrix and is synchronized with fire support plan (to include MATF fire support plan, if appropriate).
 - 1) Timing.
 - 2) Command or event driven sequence.
 - 3) Targets.
 - d. CAS is synchronized with rotary wing assets.
 - 1) Timing.
 - 2) Battle positions.
 - 3) Engagement areas.
 - e. Plan for continuous CAS missions.
- G31. **Confirm CAS plan with Fire Support Plan** (FM 6-20; FMFM 6-18)
- a. Confirm that CAS plan is synchronized with indirect fire plan and included in the fire support execution matrix.
 - 1) Sequence of attack.
 - 2) Timing.
 - 3) Engagement areas.
 - 4) Targets.
 - b. Ensure that masking of indirect fires is minimized.
 - c. Review CAS target list for appropriateness.
 - d. Identify coordination considerations with Army Aviation.
 - e. ALO and CAS are integrated into fire support rehearsals.
- G32. **Confirm airspace control measures** (MCM 3-3, Vol VIII; TACP 55-46; FMFM 5-41)
- a. Review airspace control order (ACO) and identify any changes to initial plan.
 - b. Identify local airspace restrictions for areas, altitude, times, and routes.
 - c. Specifically identify ROZs for army aviation operations (FARPs, BP, etc.).
 - d. Monitor status of airfields and specifically identify ROZs for air routes, air drop, and field landing strip resupply operations.
 - e. Specifically identify no fire areas due to ROE or friendly ground force operations.
 - f. Confirm ADA restricted operations areas (ROAs), weapons free zones, and weapons control status.

- G33. **Confirm communications** (MCM 3-3, Vol VIII; TAC Pam 50-20; FMFM 5-41)
- a. Confirm frequencies and distribution of frequencies to supported and supporting units.
 - b. Confirm distribution of proper authentication tables [KTC 1655 B for training, AKAC 1553 for operations] to all affected units with need (rotary wing, FSO, etc.)
 - c. Conduct communications check and confirm communications capability (to include authentication and HAVE-quick capability) with:
 - 1) TACP elements.
 - 2) Fixed wing forces.
 - 3) Rotary wing forces.
 - 4) Ground forces.
- G34. **Deconflict airspace** (TAC Pam 50-28; FM 100-103; FMFM 5-1; FMFM 5-41; FMFM 6-18)
- a. Confirm that ACO properly deconflicts airspace into brigade AO.
 - b. Within brigade AO, brigade plan minimizes potential fratricide situations.
 - c. Brigade plan minimizes the masking of fires for all elements.
 - d. Plan provides for reaction to aircraft ingressing and egressing the AO.
 - e. Confirm that all the following assets are operating in concert:
 - 1) CAS.
 - 2) Helicopters (attack, lift, and scout).
 - 3) Indirect fires (artillery, mortars, and naval gunfire.
 - 4) ADA.
 - 5) UAV.
 - 6) All other fixed wing aircraft
 - f. FSO overlays indirect fire asset data (locations, gun target lines, etc.) on ACO measures to ensure deconfliction.
 - g. Monitor planned and outgoing fires.
- G35. **Brief AFAC/ATAC on threat** (MCM 3-3, Vol VIII; FMFM 5-41)
- a. Size, disposition, locations and organization of enemy forces.
 - b. Current and anticipated enemy ADA capabilities, locations, and activities.
 - c. Current and forecasted weather.

APPENDIX C

Air-Forward Air Controller Task List

This appendix lists the Air-Forward Air Controller (AFAC) tasks that are necessary for the successful accomplishment of close air support. The tasks are organized in a plan, prepare, and execute format and in the general sequence in which they would be done. Planning and preparation tasks are done exclusively by the AFAC and are designated by the letter "A" in front of the task number. Execution tasks are designated by the letters "GA" in front of the task number showing that these tasks can be done by either the AFAC or the TACP. Tasks are identified by task number and include associated doctrinal reference. Each task is supported by elements of information which defines the scope of the activity.

This task list reflects the Air Force organizational configuration. Among other differences, the Marine Corps organization has both an AFAC and an ATAC (Air Tactical Air Coordinator). The AFAC is responsible for controlling the CAS aircraft only while the ATAC is responsible for coordinating the CAS and the other supporting arms.

Although there are systemic differences among services (See Section IX for a detailed discussion), this task list reflects those actions which must be conducted by an airborne FAC. Once identified, all tasks were crosswalked between Air Force and Marine Corps published tactics, techniques, and procedures and source documents from both services are listed with each task.

AFAC (AIR FORWARD AIR CONTROLLER)

PLAN (Pre-flight)

- A1. **Analyze the tactical situation** (MCM 3-3, Vol VIII; FMFM 3-1; FMFM 5-41)
 - a. Determine ground forces mission, offensive and defensive.
 - b. Determine purpose/intent of ground mission.
 - c. Determine air forces mission.
 - d. Conduct photo/map study of area of operations.
- A2. **Determine the friendly situation** (MCM 3-3, Vol VIII; FMFM 3-1)
 - a. The following information is identified:
 - 1) FLOT.
 - 2) Location of forward elements.
 - 3) Location of indirect fire assets.
 - 4) Helicopter AO.
 - 5) UAV AO.
 - 6) Location of FSCL (Fire Support Coordination Line).
 - 7) Location of other fire support coordinating or restrictive measures.
- A3. **Analyze the enemy situation** (MCM 3-3, Vol VIII; FMFM 3-1)
 - a. Determine size, disposition, location, and organization of enemy forces.
 - b. Identify potential courses of action.
- A4. **Determine enemy ADA threat** (MCM 3-3, Vol VIII; TACP Pam 50-20; FMFM 6-18; FMFM 6-18)
 - a. Identify type and capabilities of enemy ADA systems (high or low threat).
 - b. Determine locations of enemy ADA systems.
 - c. Determine past and expected activities (movement/remain stationary) of enemy ADA systems.
- A5. **Determine the EW threat** (MCM 3-3, Vol VIII; FMFM 5-1)
 - a. Determine potential impact of friendly EW.
 - b. Determine scope of enemy EW.
 - c. Determine how to neutralize enemy EW.
 - d. Identify measures to overcome enemy jamming.
- A6. **Analyze the terrain** (MCM 3-3, Vol VIII; FMFM 3-1; FMFM 6-18)
 - a. Evaluate terrain from enemy and friendly perspective.
 - b. Determine ground avenues of approach, choke points, and obstacles.
 - c. Identify air avenues of approach.
 - d. Determine the impact of weather on air operations.
 - e. Identify physical control features.
 - f. Determine the impact of the sun/moon angle on air operations.
 - g. Determine the elevation of targets in feet.

- A7. **Determine what air is planned** (MCM 3-3, Vol VIII; FMFM5-41)
- AFAC receives information on planned air sorties from the ATO and communications with the TACP.
 - Determine type of aircraft, capabilities and munitions.
 - Determine when the aircraft will arrive and how long aircraft will remain on station.
 - Determine Electronic Warfare (EW) capabilities.
 - Determine projected sortie allocation.
 - Determine priority of effort.
- A8. **Determine what air is available** (MCM 3-3, Vol VIII; FMFM 5-41)
- Based on the ATO, and communications with the TACP, AFAC identifies all aircraft available in the area during the needed timeframe .
 - Determine type aircraft, capabilities, and munitions.
 - Determine when aircraft will arrive and how long aircraft will remain on station.
 - Determine EW assets and capabilities.
 - Determine air priority of effort in the AO.
 - Determine projected tanker support.
 - Determine projected Airborne Warning and Control System (AWACS).
 - Determine projected fighter coverage.
 - Determine projected suppression coverage (JSEAD and Weasel).
- A9. **Identify air control measures** (MCM 3-3, Vol VIII; FMFM 5-41; FMFM 5-60)
- Confirm coordinating altitude (from AGL)
 - Confirm air ROE.
 - Determine restrictions and constraints (such as "no fly zones", civilian airline routes, etc.).
 - Identify the following areas:
 - HIDACZ.
 - ROZ.
 - Air ingress/egress routes.
 - ACAs.
 - CPs/IPs.
 - Helicopter air corridors.
 - MRR.
 - Engagement areas.
- A10. **Understand coordinating measures** (MCM 3-3, Vol VIII; FMFM 5-41)
- Confirm refueling capability.
 - Identify the location of holding areas.
 - Determine available on station time.
 - Confirm engagement constraints.
- A11. **Determine air tactics to be used** (MCM 3-3, Vol VIII; FMFM 5-41)
- Tactics are appropriate to threat.
 - High threat-low altitude.
 - Low threat-high altitude.
 - Tactics are appropriate to mission.
 - Tactics are appropriate to terrain and weather.

- A12. **Coordinate with airspace management agencies** (MCM 3-3, Vol VIII; TACM 3-1 V8; FMFM5-41; FMFM 5-60)
- a. Confirm assigned area of operations.
 - b. Determine EW situation.
 - c. Confirm radar monitoring capability.
 - d. Confirm enemy and friendly ADA situation.
 - e. Determine echelon specific restrictions.
 - f. Coordinate with Air Support Operations Center (ASOC) or Airborne Battlefield Command and Control Center (ABCCC) [USAF-USA].
 - g. Coordinate with the Direct Air Support Center (DASC) or Fire Support Coordination Center (FSCC) [USMC]
- A13. **Receive Intelligence update** (TACM 3-1 V8; FMFM 3-1)
- a. Update given prior to arrival in area of operations.
 - b. Update includes latest information on area of operations.

PREPARE
(On Station)

- A14. **Confirm communications** (MCM 3-3, Vol VIII; FMFM 5-41)
- a. Communications are established with the TACP, fixed wing aircraft, rotary wing aircraft, and ground forces, as required.
 - b. UHF, VHF, FM, HAVE-Quick capabilities are confirmed, as appropriate.
 - c. Authentication procedures among all forces are confirmed.
- A15. **Coordinate with TACP** (TAC Pam 50-22; TAC Pam 50-20; FMFM 6-18)
- a. Receive update from TACP.
 - 1) Latest CAS information.
 - 2) Latest tactical intelligence.
 - 3) Ground tactical situation.
 - 4) Location of TACP.
 - 5) Confirm friendly ADA status.
 - 6) Update on current enemy ADA threat.
 - 7) Fire support operations.
 - b. Update TACP on air observations.
- A16. **Analyze Threat Situation** (MCM 3-3, Vol VIII; FMFM 5-41; FMFM 5-45)
- a. Determine the best method to defeat targets (usually pilot option).
 - b. Determine the impact of weather on air operations.
 - c. Determine methods to suppress enemy ADA.
- A17. **Determine ground scheme of maneuver** (TAC Pam 50-22; FMFM 6-18)
- a. TACP talks AFAC through ground reference points to identify controls, areas, and targets.
 - b. Identify FLOT and /or BP.
 - c. Identify engagement areas.
 - d. Identify maneuver restrictions, such as axis of advance, boundaries, and other limitations.
 - e. Identify location of elements forward of the FLOT or operating independently (ie. scouts).
 - f. Identify methods for marking friendly troop locations.
- A18. **Analyze targets** (MCM 3-3, Vol VIII; FMFM 5-41)
- a. Identify location.
 - b. Determine target type.
 - c. Confirm engagement criteria.
 - d. Identify final control authority for each target.
 - e. Determine target elevation (in feet).
- A19. **Establish CAS target priorities** (FM 6-20; FMFM 5-41; FMFM 6-18)
- a. Target selection priorities support both the ground maneuver plan and aircraft survival.
 - b. Target priorities conform with the ground fire support plan.

- A20. **Confirm JSEAD plan** (MCM 3-3, Vol VIII; FMFM 5-45)
- a. Verify JSEAD requirements.
 - b. Verify planned suppression measures.
- A21. **Receive Rotary Wing Update** (TAC Pam 50-22; FMFM 5-1; FMFM 5-41)
- a. Identify responsibilities (aviation tasks and plans).
 - b. Identify constraints/limitations in altitude and routes.
 - c. Confirm capabilities (aircraft, communications, authentication, etc.).
 - d. Confirm engagement areas.
 - e. Identify critical locations, such as:
 - 1) Landing zones.
 - 2) FARPs.
 - 3) Battle positions (BP).
 - 4) Aerial Observation Positions (AOPs).
 - f. Determine method of authentication between helicopters and CAS.
- A22. **Confirm aircraft allocation** (MCM 3-3, Vol VIII; TACM 55-46; FMFM 5-41)
- a. The following information is confirmed as early as possible:
 - 1) Type of aircraft.
 - 2) When the aircraft will arrive.
 - 3) Munitions.
 - 4) Number of sorties and station time.
- A23. **Deconflict airspace** (TAC Pam 50-28; FM 100-103; FMFM 5-41; FMFM 5-60)
- a. Confirm that the ACO properly deconflicts airspace into brigade area.
 - b. Within the brigade AO, brigade plan minimizes potential fratricide situations.
 - c. Plan minimizes the masking of fires for all elements.
 - d. Plan provides for reaction to aircraft ingressing and egressing the AO.
 - e. Confirm that all the following assets are operating in concert:
 - 1) CAS.
 - 2) Helicopters (attack, lift, and scout)
 - 3) Indirect fires (artillery, mortars, and naval.
 - 4) ADA.
 - 5) UAV.
 - 6) All other fixed wing aircraft
- A24. **Confirm airspace control measures** (MCM 3-3, Vol VIII; TACR 55-46; FMFM 5-60; FMFM 5-41)
- a. Review airspace control order (ACO) with the Control Radar Center (CRC) for update on control measures and identify any changes to initial plan.
 - b. Identify local airspace restrictions for areas, altitude, times, and routes.
 - c. Specifically identify ROZs for army aviation operations (FARPs, BP, etc.).
 - d. Monitor status of airfields and specifically identify ROZs for air routes, air drop, and field landing strip resupply operations.
 - e. Specifically identify no fire areas due to ROE or friendly ground force operations.
 - f. Confirm ADA restricted operations areas (ROAs), weapons free zones, and weapons control status.

- A25. **Confirm friendly ADA status** (MCM 3-3, Vol VIII; FM 100-103; FMFM 5-60)
- a. Verify current ADA status
 - b. Verify procedures to change ADA status.
- A26. **Match weapon with target** (MCM 3-3, Vol VIII; FMFM 5-41)
- a. Ensure that planned targets are matched with the most appropriate weapon system.
 - b. Confirm that munitions support scheme of maneuver.
 - c. Sequence attack to conform to established target priorities.
 - d. Sequence attack to conform to fire support plan.
- A27. **Confirm target marking procedures** (TAC Pam 50-28; FMFM 6-8; FMFM 6-18)
- a. Verify marking procedures and ensure understanding of distinction between target marking and method of marking friendly locations.
 - b. Confirm the utility of using target marking methods such as laser, smoke, tracers, or target description.
 - c. Verify terrain features for ease of identification.

CLOSE AIR SUPPORT TASK LIST
EXECUTION
(Cyclic)

- GA36. Establish communications with CAS (TAC Pam 50-28; TAC Pam 50-20; FMFM 5-41; FMFM 6-18)**
- a. Establish communications with incoming CAS aircraft.
 - 1) Conduct authentication.
 - 2) Activate Chattermark (alternate frequency) plan.
 - b. Continuous communications are maintained between the following:
 - 1) CAS and FAC.
 - 2) FAC and TACP.
 - 3) TACP and command group.
 - c. Rotary wing forces maintain communication with the following:
 - 1) Command group.
 - 2) Air command and control elements.
 - 3) CAS aircraft.
- GA37. Confirm CAS aircraft line-up (TAC Pam 50-22; FMFM 5-41)**
- a. Call sign.
 - b. Mission number.
 - c. Ordnance and fusing.
 - d. On station time (playtime).
 - e. Abort code.
- GA38. Deconflict airspace (TAC Pam 50-28; FMFM 5-41; FMFM 5-60)**
- a. Shift or lift indirect fires.
 - b. Shift other air assets, such as helicopters or UAVs.
 - c. Update ADA status.
 - d. Establish CAS holding points.
 - e. Prepare to stack CAS aircraft.
 - f. Avoid air drop/air land ROZs.
- GA39. React to delay of aircraft (TAC Pam 50-28; FMFM 5-41)**
- a. Confirm new time.
 - b. Determine changes in ground situation.
 - c. Confirm targets.
 - d. Develop new targets.
 - e. Activate contingency plans.
- GA40. Announce arrival of friendly air (MCM 3-3, Vol VIII; FMFM 5-41; FMFM 6-18)**
- a. AFAC Notify TACP.
 - b. TACP notify command group.
- GA41. Identify target priorities to pilots (TAC Pam 50-22; FMFM 5-41)**
- a. Ensure that pilots understand target priorities for CAS priorities.
 - b. Identify target priorities for rotary wing and indirect fire assets.
 - c. Ensure that pilots understand CAS attack sequence.

- GA42. Control CAS during rotary wing missions (TAC Pam 50-20)**
- a. Confirm call signs for all aircraft.
 - b. Confirm JFIRE/JAAT targets.
 - c. Confirm target locations for:
 - 1) CAS.
 - 2) Attack helicopters.
 - 3) Indirect fires.
 - d. Confirm target marking procedures.
 - e. Confirm friendly location marking procedures.
- GA43. Brief JFIRE (9 Line) to aircraft at IP/CP (MCM 3-3, Vol VIII; FMFM 5-41)**
- a. Briefing follows prescribed format.
 - b. CAS aircraft have current information on the following:
 - 1) Targets
 - 2) Friendly situation
 - 3) Hazards (ADA, enemy, indirect fires, etc.).
- GA44. Confirm friendly locations with aircraft (TAC Pam 50-22;MCM 3-3,Vol VIII; FMFM 5-41; FMFM 6-18)**
- a. TACP coordinates with S3/FSO on last known friendly locations and friendly position marking methods.
 - b. The AFAC forwards all battlefield updates to attack aircraft.
 - c. Pilots can identify FLOT.
 - d. Pilots can identify location of elements forward of the FLOT.
 - e. Pilots are aware of other aircraft in the area.
 - f. Pilots understand the danger close (1000 meters) criteria.
- GA45. Confirm target locations with aircraft (TAC Pam 50-22;MCM 3-3, Vol VIII; FMFM 5-41; FMFM 6-18)**
- a. Ensure that CAS aircraft can identify the targets.
 - b. Designate targets:
 - 1) By grid.
 - 2) From known terrain feature.
 - 3) By marking designator.
- GA46. Initiate JSEAD effort (MCM 3-3, Vol VIII; FMFM 5-41; FMFM 5-45)**
- a. Execute prior to CAS attack.
 - b. Confirm targets.
 - c. Confirm method of attack.
 - 1) CAS aircraft.
 - 2) Rotary wing.
 - 3) Indirect fires (Artillery, Naval gunfire).
 - 4) Electronic warfare.
 - d. Confirm effectiveness of attack.

- GA47. **Confirm attack approval from ground commander** (TAC Pam 50-28; FMFM 5-41; FMFM 6-18)
- Ensure ground commander is aware of the target type and location.
 - Ensure ground commander is aware of the time of attack and munitions to be used.
 - Ensure ground commander is aware of closest friendly unit to the attack and the risk involved.
- GA48. **Issue attack clearance** (MCM 3-3, Vol VIII; FMFM 5-41; FMFM 6-18)
- Identify final authority.
 - Confirm abort code.
 - Confirm type of clearance.
 - Depart IP.
 - On Final.
 - Flight Lead Control.
 - Confirm run-in headings.
- GA49. **Confirm target approach** (MCM 3-3, Vol VIII; FMFM 5-41; FMFM 6-18)
- Ensure that the ground forces confirm the air corridor, attack altitude, and attack timing.
 - Ensure that the air forces confirm the air corridor, attack altitude, and attack timing.
 - Reconfirm run-in headings.
- GA50. **Direct attack on targets** (TAC Pam 50-28; FMFM 5-41; FMFM 6-18)
- Execute JSEAD.
 - Direct CAS to targets.
 - Identify targets for aircraft using smoke, laser, geographic references, etc.
- GA51. **Continuously update aircraft** (TAC Pam 50-28; TAC Pam 50-20; FMFM 5-41; FMFM 6-18)
- Anticipate ground maneuver speed.
 - Continuously give aircraft known and probable enemy locations
 - Continuously give aircraft locations of friendly forces.
 - Continuously update aircraft on the ground tactical situation.
- GA52. **Request pilot observations** (MCM 3-3, Vol VIII; FMFM 5-41; FMFM 6-18)
- Determine size of enemy forces.
 - Determine enemy disposition.
 - Determine type of enemy force.
 - Identify movement.
- GA53. **Disseminate pilot observations** (MCM 3-3, Vol VIII; FMFM 5-41; FMFM 6-18)
- TACP receives pilot tactical observations.
 - TACP ensures all pilot tactical observations are immediately passed to the S2, S3, Commander, and other aircraft.

- GA54. **Determine Battle Damage Assessment** (TAC Pam 50-22;MCM 3-3, Vol VIII; FMFM 5-41)
- a. Identify friendly aircraft losses.
 - b. Identify enemy personnel and equipment losses by type, estimated quantity, and location.
- GA55. **Execute FAC handoff** (TAC Pam 50-28;TAC Pam 50-22;MCM 3-3, Vol VIII; FMFM 5-41; FMFM 6-18)
- a. Designate FAC responsibilities (in cases of multiple FACs).
 - b. Update incoming FAC on situation.
 - c. Ensure continuous and unimpeded CAS support.
 - d. GFAC prepared to assume direct control of aircraft.

APPENDIX D

Task Flow Charts and Linkages

Appendix D shows the task flow charts and linkages for the AFAC, TACP, and Ground Maneuver forces. It is organized in the mission sequence of plan, prepare, execute. The execution phase is depicted to show the cyclic nature of the sequence which may occur several times during the course of the maneuver mission under the control of either the TACP or the AFAC.

MANEUVER AND TACP CLOSE AIR SUPPORT TASK SEQUENCE

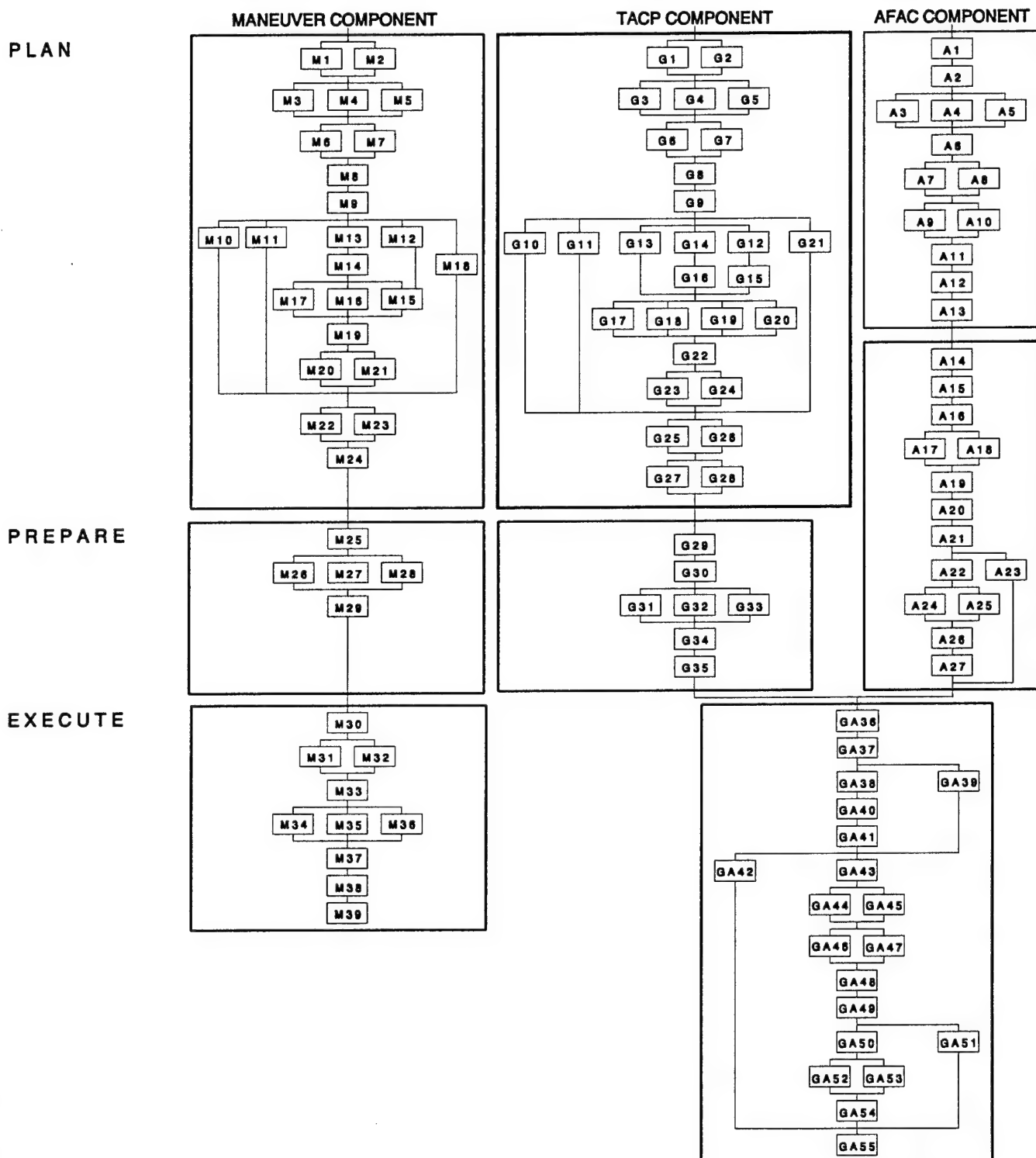


Figure 13: Schematic of the task linkage network of CAS battle tasks for air and ground components

MANEUVER TASK SEQUENCE

PLANNING

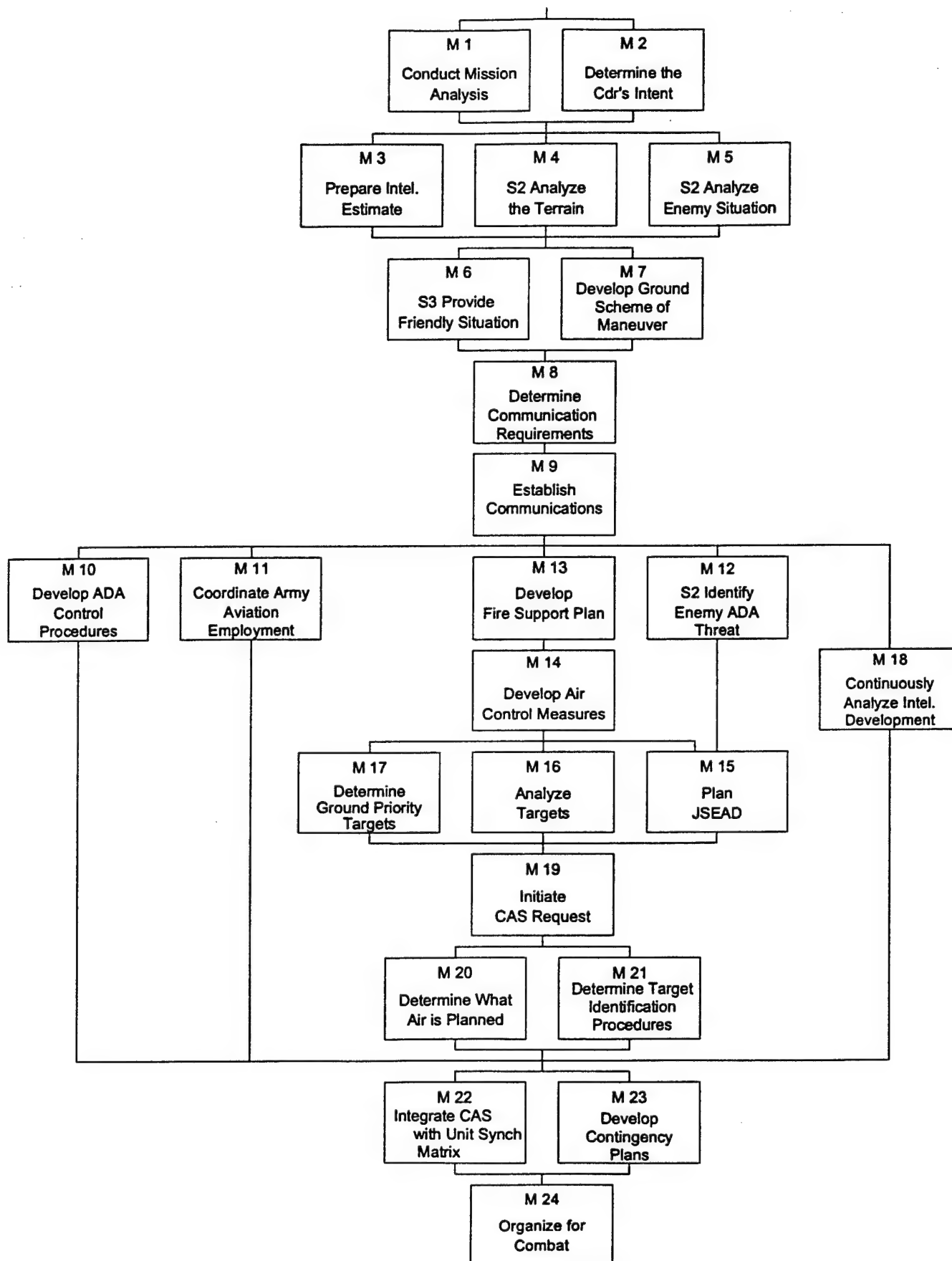


Figure 14: Maneuver Task Sequence - Planning

MANEUVER TASK SEQUENCE

PREPARATION

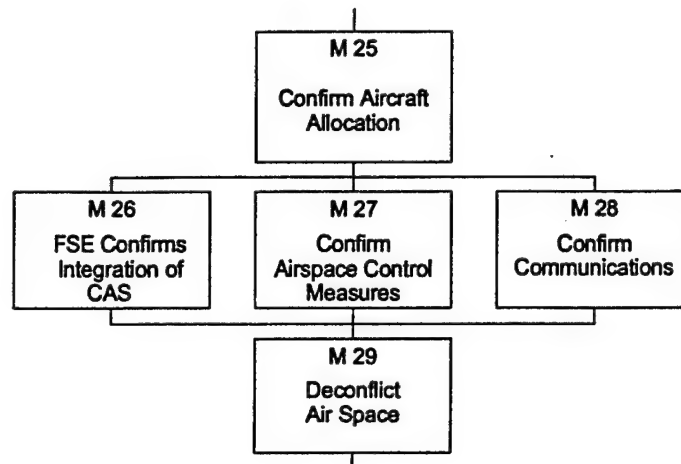


Figure 15: Maneuver Task Sequence - Preparation D-4

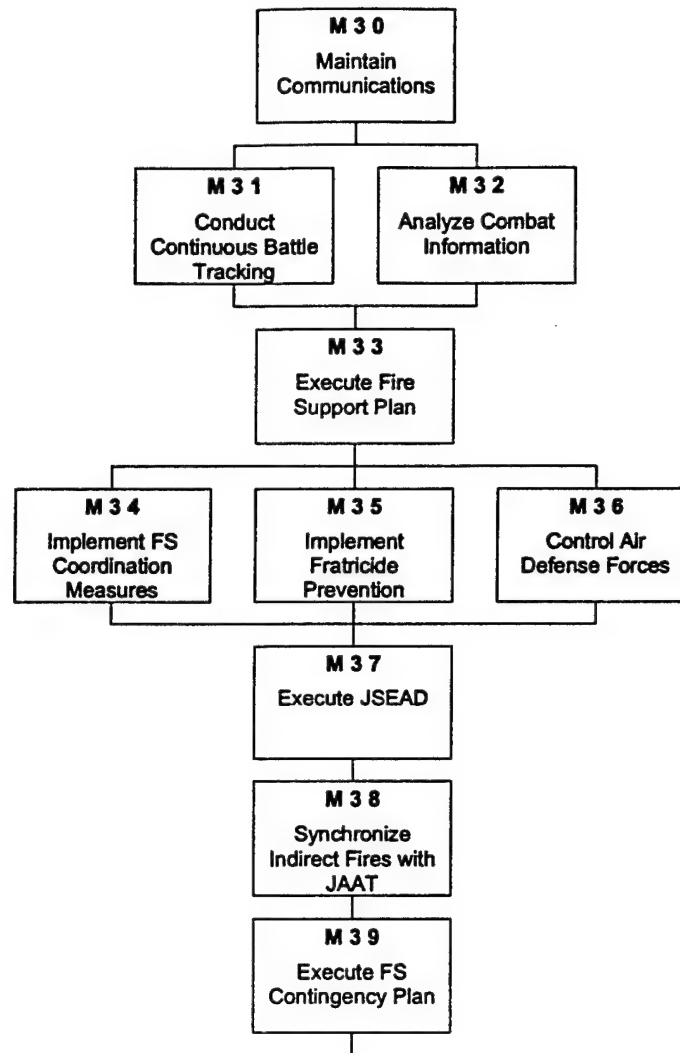


Figure 16: Maneuver Task Sequence - Execution

TACP TASK SEQUENCE

PLANNING

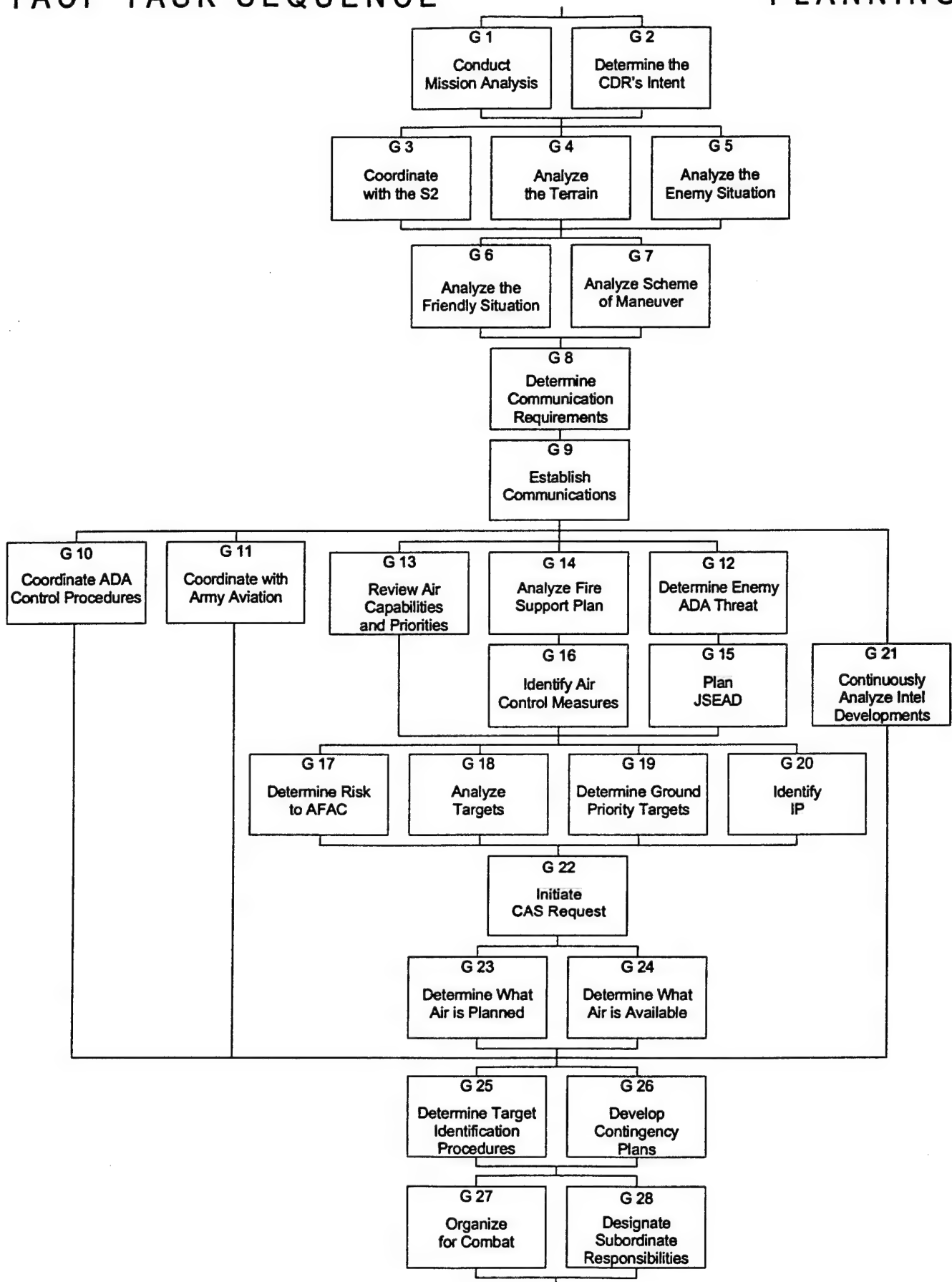


Figure 17: TACP Task Sequence - Planning

TACP TASK SEQUENCE

PREPARATION

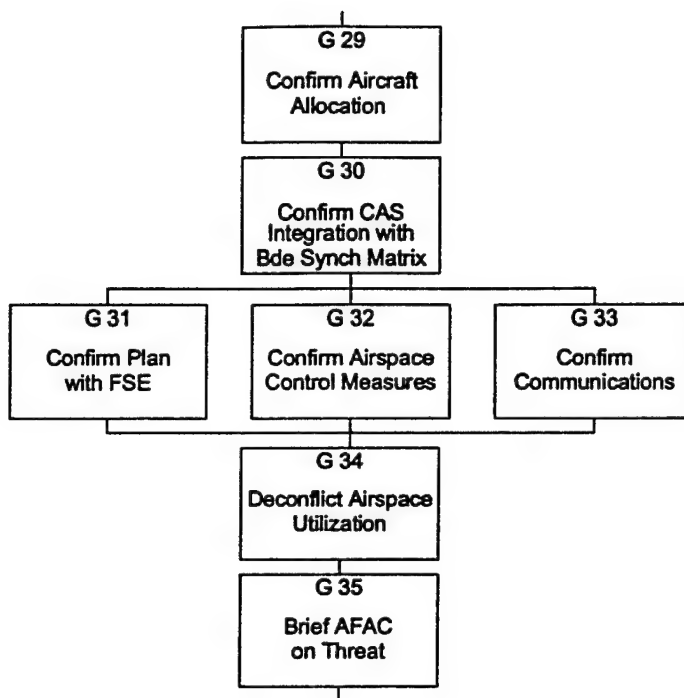


Figure 18: TACP Task Sequence - Preparation

AFAC TASK SEQUENCE

PREFLIGHT PLANNING

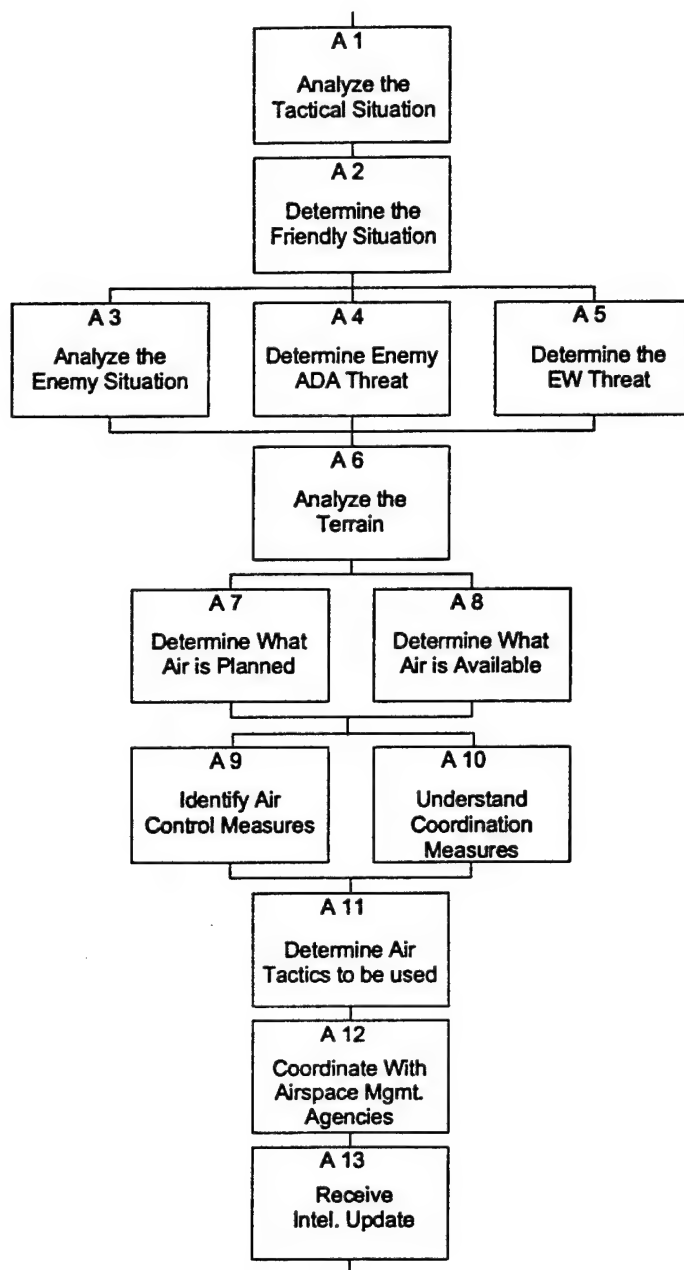


Figure 19: AFAC Task Sequence - Preflight Planning D-8

AFAC TASK SEQUENCE

PREPARATION (On Station)

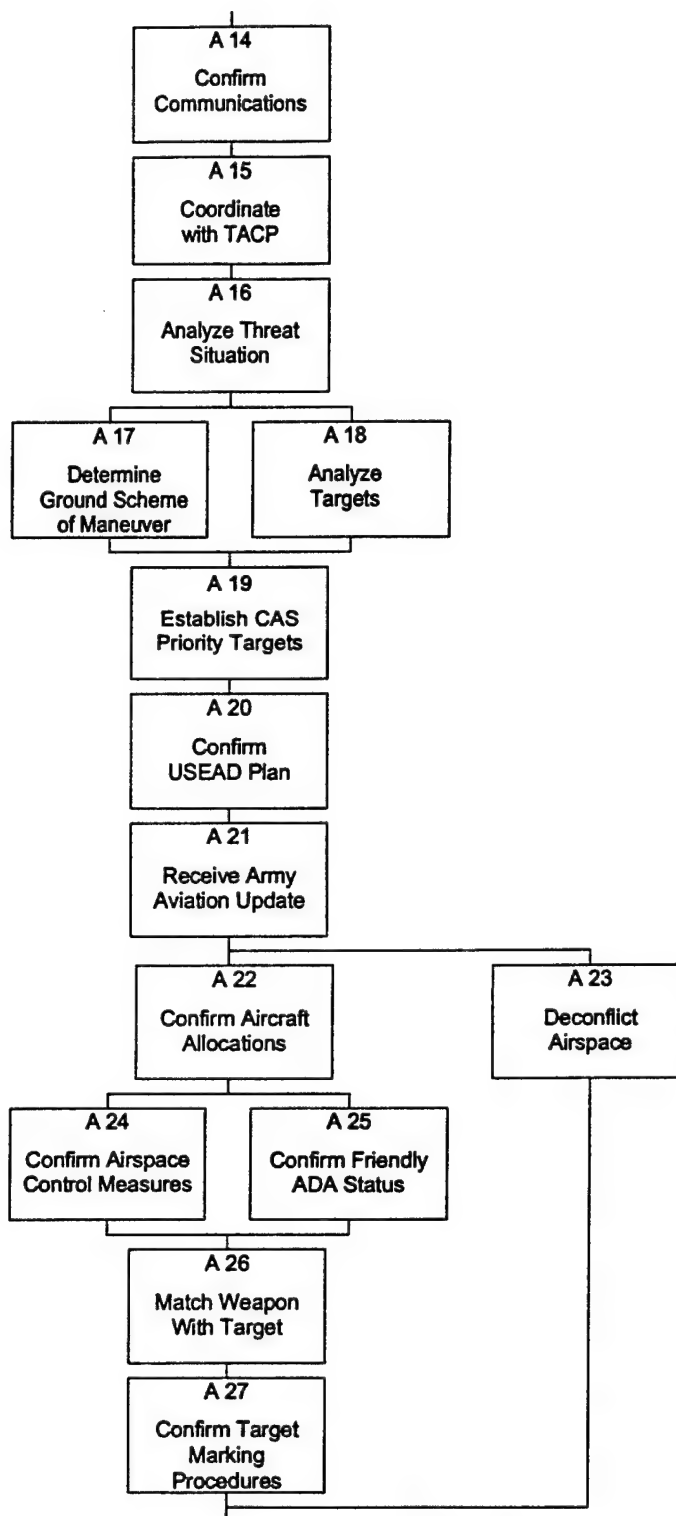


Figure 20: AFAC Task Sequence - Preparation

AIR/GROUND EXECUTION TASK SEQUENCE

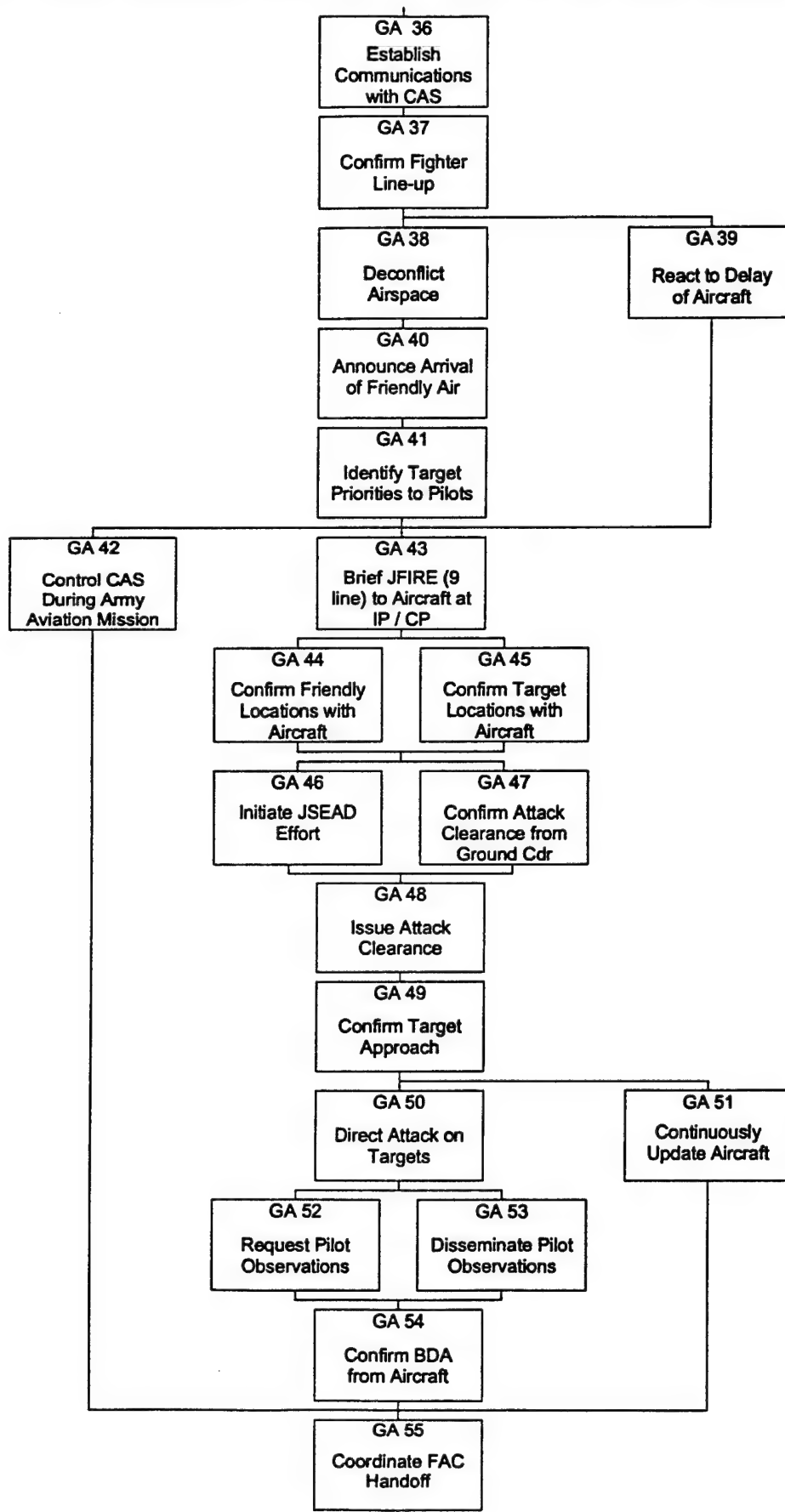


Figure 21: Air/Ground Execution Task Sequence D-10

APPENDIX E

Task Assessment Summary

This summary addresses the main task only. It organizes assessments into three categories: Go, No Go, and borderline. Go includes all assessments of adequate and superior. No Go includes all assessments of not adequate and not done. Borderline includes all assessments of Marginally Adequate. The number of entries for each task may vary among tasks because Not Applicable and Not Observed assessments are not tabulated in this summary.

GROUND MANEUVER TASK SUMMARY

PLANNING		GO	BL	NG
M01	Conduct Mission Analysis	14	6	3
M02	Determine Commander's Intent	16	1	7
M03	Prepare Intelligence Estimate	7	3	7
M04	Analyze the Terrain	7	7	2
M05	Analyze the Enemy Situation	9	3	4
M06	Develop Friendly Situation	4	9	5
M07	ID Air Control Measures	4	2	12
M08	Determine Commo Requirements	9	5	5
M09	Establish Communications	6	4	4
M10	Develop ADA Control Procedures	6	7	5
M11	Coordinate Army Aviation Employment	3	3	4
M12	Determine Enemy ADA Threat	9	9	3
M13	Develop Fire Support Plan	4	4	5
M14	Plan JSEAD	1	1	10
M15	Analyze Targets	8	8	5
M16	Determine Ground Priority Targets	5	5	7
M17	Develop Ground Scheme of Maneuver	2	6	5
M18	Continuously Analyze Intel Developments	5	4	3
M19	Initiate CAS Request	3	4	4
M20	Determine What Air is Planned	5	9	6
M21	Determine What Air is Available	5	3	10
M22	Determine Target ID Procedures	3		11
M23	Develop Contingency Plans			11
M24	Organize for Combat	7	4	3

PREPARATION

M25	Confirm Aircraft Allocation	10	3	6
M26	Integrate CAS with Synch Matrix		2	19
M27	FSE Integrates CAS		3	12
M28	Confirm Airspace Control Measures	4	6	13
M29	Confirm Communications	8	4	6
M30	Deconflict Airspace	1	6	8

TACP TASK SUMMARY

PLANNING		GO	BL	NG
G01	Conduct Mission Analysis	9	3	
G02	Determine Commander's Intent	12		
G03	Coordinate with S2	9	3	
G04	Analyze the Terrain	10	2	
G05	Analyze Enemy Situation	8	4	
G06	ID Air Control Measures	11		
G07	Analyze Friendly Situation	6	6	
G08	Determine Commo Requirements	7	4	
G09	Establish Communications	7	4	1
G10	Coord. ADA Control Procedures	4	6	
G11	Coord. with Army Aviation	6	5	
G12	Determine Enemy ADA Threat	7	4	
G13	Review Air Capabilities and Priorities	1	11	
G14	Analyze Fire Support Plan	6	5	
G15	Plan JSEAD	5	6	
G16	Determine Risk to AFAC	10	1	
G17	Analyze Targets	8	4	
G18	Determine Ground Priority Targets	10	2	
G19	Identify Initial Point	12		
G20	Analyze Ground Scheme of Maneuver	9	3	
G21	Continuously Analyze Intel Developments	8	4	
G22	Initiate CAS Request	10	1	
G23	Determine What Air is Planned	11		
G24	Determine What Air is Available	10		
G25	Determine Target ID Procedures	10	1	
G26	Develop Contingency Plans	6	4	
G27	Organize for Combat	10	1	
G28	Designate Subordinate Responsibilities	11		
PREPARATION				
G29	Confirm Aircraft Allocation	12		
G30	Confirm CAS Integration w/Synch Matrix	9	1	
G31	Confirm Plan with FSE	6	5	
G32	Confirm Airspace Control Measures	10		
G33	Confirm Communications	8	2	
G34	Deconflict Airspace	9	1	
G35	Brief AFAC on Threat	8	2	

AFAC TASK SUMMARY

PLANNING		GO	BL	NG
A01	Analyze Tactical Situation	1		
A02	Determine Friendly Situation	1		
A03	Analyze Enemy Situation			
A04	Determine Enemy ADA Threat	1		
A05	Determine EW Threat		1	
A06	Analyze the Terrain			
A07	Determine What Air is Planned			
A08	Determine What Air is Available			
A09	ID Air Control Measures			
A10	Understand Coordinating Measures			
A11	Determine Air Tactics to be Used			
A12	Coord. with Airspace Management Agencies			
A13	Receive Intelligence Update			
PREPARATION				
A14	Confirm Communications	11		
A15	Coordinate with TACP	10		
A16	Analyze Threat Situation	8		1
A17	Determine Ground Scheme of Maneuver	8		
A18	Analyze Targets	8		1
A19	Establish CAS Target Priorities	5		
A20	Confirm JSEAD Plan	2		2
A21	Receive Army Aviation Update	3		
A22	Confirm Aircraft Allocation			1
A23	Deconflict Airspace	6		1
A24	Confirm Airspace Control Measures	6		
A25	Confirm Friendly ADA Status	3		
A26	Match Weapon with Threat	4		1
A27	Confirm Target Marking Procedures	1		

CAS EXECUTION TASKS

		GO	BL	NG
GA36	Establish Communications	6	1	
GA37	Confirm Fighter Line-up	7		
GA38	Deconflict Airspace	5		
GA39	React to Delay of Aircraft	1		
GA40	Announce Arrival of Friendly Air	6	1	
GA41	ID Target Priorities to Pilots	7	1	
GA42	Control CAS During Army Aviation Msn	2		
GA43	Brief JFIRE to Aircraft at IP/CP	7		
GA44	Confirm Friendly Locations with Aircraft	7		
GA45	Confirm Target Locations with Aircraft	8		
GA46	Initiate JSEAD			
GA47	Confirm Attack Approval from CDR	3	1	
GA48	Issue Attack Clearance	7		
GA49	Confirm Target Approach	5	1	
GA50	Direct Attack on Targets	7		
GA51	Continuously Update Aircraft	6	2	
GA52	Request Pilot Observations	8		
GA53	Disseminate Pilot Observations	2	1	
GA54	Determine BDA	3		
GA55	Execute FAC Handoff	8		

APPENDIX F

List of Task Assessments from Field Tryout

Appendix E shows the consolidated task assessments generated during the JRTC field tryout. The responses are a collective tabulation from two task forces and one brigade headquarters during the course of a rotation. Tasks include planning and preparation tasks for ground maneuver (designated by the letter **M**), TACP (**G**), and AFAC (**A**). Air component execution tasks are designated by **GA**. Tasks are listed in the following manner:

M01 Task

M01A Task subordinate measure

M01A1 Subordinate measure element of information

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

AFAC PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
A01	Analyze the tactical situation (MCM 3-3, Vol VIII)							
	0	0	0	0	1	0	0	0
A01A	Determine ground forces mission, offensive and defensive							
	0	0	0	0	1	0	0	0
A01B	Determine purpose/intent of ground mission							
	0	0	0	1	0	0	0	0
A01C	Determine air forces mission							
	0	0	1	0	0	0	0	0
A02	Determine the friendly situation (MCM 3-3, Vol VIII)							
	0	0	0	1	0	0	0	0
A02A	The following information is identified:							
	0	0	0	0	0	0	0	1
A02A1	FLOT							
	0	0	0	0	1	0	0	0
A02A2	Location of forward elements							
	1	0	0	0	0	0	0	0
A02A3	Location of indirect fire assets							
	1	0	0	0	0	0	0	0
A02A4	Helicopter AO							
	0	0	1	0	0	0	0	0
A02A5	UAV AO							
	0	0	0	0	0	0	1	0
A02A6	Location of FSCL (Fire Support Coordination Line)							
	0	0	0	0	0	0	1	0
A02A7	Location of other fire support coordinating or restrictive measures							
	0	0	0	0	1	0	0	0
A03	Analyze the enemy situation (MCM 3-3, Vol VIII)							
	0	0	0	0	0	0	0	1
A03A	Determine size, disposition, location, and organization of enemy forces							
	0	0	0	1	0	0	0	0
A03B	Identify potential courses of action							
	0	0	0	0	1	0	0	0
A04	Determine enemy ADA threat (MCM 3-3, Vol VIII; TACP Pam 50-20)							
	0	0	0	1	0	0	0	0
A04A	Identify type and capabilities of enemy ADA systems (type munitions and							
	0	0	0	1	0	0	0	0
A04B	Determine locations of enemy ADA systems							
	0	0	1	0	0	0	0	0
A04C	Determine past and expected activities (movement/remain stationary) of							
	0	0	0	1	0	0	0	0
A05	Determine the EW threat (MCM 3-3, Vol VIII)							
	0	0	1	0	0	0	0	0
A05A	Determine potential impact of friendly EW							
	0	0	0	0	0	0	1	0
A05B	Determine scope of enemy EW							
	0	0	0	0	0	0	1	0

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

AFAC PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
A05C	Determine how to neutralize enemy EW	0	0	0	0	0	1	0
A05D	Identify measures to overcome enemy jamming	0	0	1	0	0	0	0
A06	Analyze the terrain (MCM 3-3, Vol VIII)	0	0	0	0	0	0	1
A06A	Determine ground avenues of approach, choke points, and obstacles	0	0	0	1	0	0	0
A06B	Identify air avenues of approach	0	0	0	0	0	1	0
A06C	Determine the impact of weather on air operations	0	0	0	0	1	0	0
A06D	Identify physical control features	0	0	0	1	0	0	0
A06E	Determine the impact of the sun angle on air operations	0	0	1	0	0	0	0
A06F	Determine the elevation of targets in feet	0	0	0	1	0	0	0
A07	Determine what air is planned (MCM 3-3, Vol VIII)	0	0	0	0	0	0	1
A07A	AFAC receives information on planned air sorties from the ATO and	0	0	0	0	1	0	0
A07B	Determine type of aircraft, capabilities and munitions	0	0	0	0	1	0	0
A07C	Determine when the aircraft will arrive and how long aircraft will remain	0	0	0	0	1	0	0
A07D	Determine Electronic Warfare (EW) capabilities	0	0	0	0	0	0	1
A07E	Determine projected sortie allocation	0	0	0	0	0	1	0
A07F	Determine priority of effort	0	0	0	0	0	0	1
A08	Determine what air is available (MCM 3-3, Vol VIII)	0	0	0	0	0	0	1
A08A	Based on the ATO, and communications with the TACP, AFAC identifies all	0	0	0	1	0	0	0
A08B	Determine type aircraft, capabilities, and munitions	0	0	0	0	1	0	0
A08C	Determine when aircraft will arrive and how long aircraft will remain on	0	0	0	1	0	0	0
A08D	Determine EW assets and capabilities	0	0	0	0	0	1	0
A08E	Determine air priority of effort in the AO	0	0	1	0	0	0	0
A08F	Determine projected tanker support	0	0	0	0	0	1	0

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

AFAC PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
A08G	Determine projected Airborne Warning and Control System (AWACS)	0	0	0	0	0	1	0
A08H	Determine projected fighter coverage	0	0	0	0	0	1	0
A08I	Determine projected suppression coverage (JSEAD and Weasel)	0	0	1	0	0	0	0
A09	Identify air control measures (MCM 3-3, Vol VIII)	0	0	0	0	0	0	1
A09A	Confirm coordinating altitude (from AGL)	0	0	0	1	0	0	0
A09B	Confirm air ROE	0	0	0	1	0	0	0
A09C	Determine restrictions and constraints (such as 'no fly zones', civilian	0	0	0	1	0	0	0
A09D	Identify the following areas:	0	0	0	0	0	0	1
A09D1	HIDACZ	0	0	0	1	0	0	0
A09D2	ROZ	0	0	0	1	0	0	0
A09D3	Air ingress/egress routes	0	0	0	1	0	0	0
A09D4	ACAs	0	0	0	1	0	0	0
A09D5	CPs/IPs	0	0	0	1	0	0	0
A09D6	Helicopter air corridors	0	0	0	1	0	0	0
A09D7	MRR	0	0	0	1	0	0	0
A09D8	Engagement areas	0	0	0	0	0	1	0
A10	Understand coordinating measures (MCM 3-3, Vol VIII)	0	0	0	0	0	0	1
A10A	Confirm refueling capability	0	0	0	0	0	1	0
A10B	Identify the location of holding areas	0	0	0	1	0	0	0
A10C	Determine available on station time	0	0	0	1	0	0	0
A10D	Confirm engagement constraints	0	0	0	1	0	0	0
A11	Determine air tactics to be used (MCM 3-3, Vol VIII)	0	0	0	0	0	0	1
A11A	Tactics are appropriate to threat	0	0	0	1	0	0	0

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

AFAC PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
A11A1	High threat-low altitude							
	0	0	0	0	0	0	0	1
A11A2	Low threat-high altitude							
	0	0	0	0	0	0	0	1
A11B	Tactics are appropriate to mission							
	0	0	0	1	0	0	0	0
A11C	Tactics are appropriate to terrain and weather							
	0	0	0	0	1	0	0	0
A12	Coordinate with airspace management agencies (MCM 3-3, Vol VIII; TACM 3-1							
	0	0	0	0	0	0	0	1
A12A	Confirm assigned area of operations							
	0	0	0	0	1	0	0	0
A12B	Determine EW situation							
	0	0	0	0	0	0	1	0
A12C	Confirm radar monitoring capability							
	0	0	0	0	0	0	1	0
A12D	Confirm enemy and friendly ADA situation							
	0	0	1	0	0	0	0	0
A12E	Determine echelon specific restrictions							
	0	0	0	1	0	0	0	0
A12F	Coordinate with Air Support Operations Center (or Airborn Battlefield							
	0	0	0	1	0	0	0	0
A13	Receive Intelligence update (TACM 3-1 V8)							
	0	0	0	0	0	0	0	1
A13A	Update given prior to arrival in area of operations							
	0	0	0	1	0	0	0	0
A13B	Update includes latest information on area of operations							
	0	0	0	1	0	0	0	0
A14	Confirm communications (MCM 3-3, Vol VIII)							
	0	0	0	11	0	0	0	0
A14A	Communications are established with the TACP, air forces (aircraft), Army							
	0	0	1	10	0	0	0	0
A14B	UHF, VHF, FM, HAVE-Quick capability, and authentication are confirmed, as							
	0	0	1	10	0	0	0	0
A15	Coordinate with TACP (TAC Pam 50-22; TAC Pam 50-20)							
	0	0	0	10	0	0	0	1
A15A	Recieve update from TACP							
	0	0	0	8	0	0	0	3
A15A1	Latest CAS information							
	0	0	0	9	0	0	0	2
A15A2	Latest tactical intelligence							
	0	0	1	8	0	0	0	2
A15A3	Ground tactical situation							
	0	0	0	9	0	0	0	2
A15A4	Location of TACP							
	0	0	0	7	0	1	1	2

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

AFAC PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess	
A15A5	Confirm friendly ADA status	0	0	0	8	1	0	0	2
A15A6	Update on current enemy ADA threat	1	1	0	6	1	0	0	2
A15B	Update TACP on air observations	0	0	0	7	0	0	1	3
A16	Analyze Threat Situation (MCM 3-3, Vol VIII)	1	0	0	6	1	0	1	2
A16A	Determine the best method to defeat targets (usually pilot option)	0	0	0	4	1	0	1	5
A16B	Determine the impact of weather on air operations	0	0	0	3	1	1	1	5
A16C	Determine methods to suppress enemy ADA	0	0	0	3	2	0	1	5
A17	Determine ground scheme of maneuver (TAC Pam 50-22)	0	0	0	7	1	0	0	3
A17A	TACP talks AFAC through ground reference points to identify controls,	0	0	1	5	2	0	1	2
A17B	Identify FLOT and /or BPs	0	0	0	3	0	2	4	2
A17C	Identify engagement areas	0	0	0	6	0	0	3	2
A17D	Identify maneuver restrictions, such as axis of advance, boundaries, and	0	0	0	7	0	0	2	2
A17E	Identify location of elements forward of the FLOT or operating	0	0	0	3	0	2	4	2
A17F	Identify methods for marking friendly troop locations	1	0	0	4	0	2	1	3
A18	Analyze targets (MCM 3-3, Vol VIII)	1	0	0	8	0	0	0	2
A18A	Identify location	0	0	0	7	1	0	0	3
A18B	Determine target type	1	0	0	6	1	0	0	3
A18C	Confirm engagement criteria	0	0	0	6	0	0	1	4
A18D	Identify final control authority for each target	0	0	0	6	0	0	1	4
A18E	Determine target elevation (in feet)	0	0	0	6	0	0	1	4
A19	Establish CAS target priorities (FM 6-20)	0	0	0	5	0	0	2	4
A19A	Target selection priorities support both the ground maneuver plan and	0	0	0	5	0	0	0	6
A19B	Target priorities conform with the ground fire support plan	0	0	0	5	0	0	0	6

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

AFAC PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
A20	Confirm JSEAD plan (MCM 3-3, Vol VIII)							
	2	0	0	1	1	0	2	5
A20A	Verify JSEAD requirements							
	0	0	0	2	0	0	0	9
A20B	Verify planned suppression measures							
	0	0	0	2	0	0	0	9
A21	Recieve Army Aviation update (TAC Pam 50-22)							
	0	0	0	3	0	0	6	2
A21A	Identify responsibilities (aviation tasks and plans)							
	1	0	0	1	0	0	1	8
A21B	Identify constraints/limitations in altitude and routes							
	1	0	0	1	0	0	1	8
A21C	Confirm capabilities (aircraft, communications, authentication, etc.)							
	0	0	1-	2	0	0	0	8
A21D	Confirm engagement areas							
	1	0	0	1	0	0	1	8
A21E	Identify critical locations, such as:							
	1	0	0	1	0	0	1	8
A21E1	Landing zones							
	0	0	0	1	0	0	0	10
A21E2	FARPs							
	0	0	0	1	0	0	0	10
A21E3	Battle positions (BPs)							
	0	0	0	1	0	0	0	10
A21E4	Aerial Observation Positions (AOPs)							
	0	0	0	1	0	0	0	10
A21F	Determine method of authentication between helicopters and CAS							
	0	0	0	1	0	0	1	9
A22	Confirm aircraft allocation (MCM 3-3, Vol VIII;TACM 55-46)							
	1	0	0	0	0	0	7	3
A22A	The following information is confirmed as early as possible:							
	0	0	0	0	0	0	0	11
A22A1	Type of aircraft							
	0	0	0	0	0	0	0	11
A22A2	When the aircraft will arrive							
	0	0	0	0	0	0	0	11
A22A3	Munitions							
	0	0	0	0	0	0	0	11
A22A4	Number of sorties and station time							
	0	0	0	0	0	0	0	11
A23	Deconflict airspace (TAC Pam 50-28;FM 100-103)							
	1	0	0	6	0	0	1	3
A23A	ACO provides for deconfliction of overall airspace into the brigade area							
	0	0	0	2	0	0	0	9
A23B	Within the brigade AO, brigade plan minimizes potential fratricide							
	0	0	0	2	0	0	0	9

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

AFAC PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess	
A23C	Plan minimizes the masking of fires for all elements	0	0	0	1	0	0	1	9
A23D	Plan provides for reaction to aircraft ingressing and egressing the AO	0	0	0	1	0	0	1	9
A23E	Confirm that all the following assets are operating in concert:	0	0	0	2	0	0	0	9
A23E1	CAS	0	0	0	2	0	0	0	9
A23E2	Helicopters (attack, lift, and scout)	0	0	0	2	0	0	0	9
A23E3	Indirect fires (artillery, mortars, and naval	0	0	0	3	0	0	0	8
A23E4	ADA	0	0	0	2	0	0	0	9
A23E5	UAV	0	0	0	1	0	0	1	9
A24	Confirm airspace control measures (MCM 3-3, Vol VIII; TACR 55-46)	0	0	0	6	0	0	2	3
A24A	Review airspace control order (ACO) and identify any changes to initial	0	0	0	2	0	0	0	9
A24B	Identify local airspace restrictions for areas, altitude, times, and routes	0	0	0	2	0	0	0	9
A24C	Specifically identify ROZs for army aviation operations (FARPs, BPs, etc.)	0	0	0	3	0	0	0	8
A24D	Monitor status of airfields and specifically identify ROZs for air routes,	0	0	0	2	0	0	0	9
A24E	Specifically identify no fire areas due to ROE or friendly ground force	0	0	0	3	0	0	0	8
A24F	Confirm ADA restricted operations areas (ROAs), weapons free zones, and	0	0	0	2	0	0	0	9
A25	Confirm friendly ADA status (MCM 3-3, Vol VIII; FM 100-103)	0	0	0	3	0	1	3	4
A25A	Verify current ADA status	0	0	0	2	0	0	0	9
A25B	Verify procedures to change ADA status	0	0	0	2	0	0	0	9
A26	Match weapon with target (MCM 3-3, Vol VIII)	1	0	0	4	0	0	3	3
A26A	Ensure that planned targets are matched with the most appropriate weapon	0	0	0	4	0	0	0	7
A26B	Confirm that munitions support scheme of maneuver	0	0	0	4	0	0	0	7
A26C	Sequence attack to conform to established target priorities	0	0	0	4	0	0	0	7
A26D	Sequence attack to conform to fire support plan	0	0	0	4	0	0	0	7

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

AFAC PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
A27	Confirm target marking procedures (TAC Pam 50-28)							
	0	0	0	1	0	0	7	3
A27A	Verify marking procedures and ensure understanding of distinction between							
	0	0	0	0	0	0	0	11
A27B	Confirm the utility of using target marking methods such as laser, smoke,							
	0	0	0	0	0	0	0	11
A27C	Verify terrain features for ease of identification							
	0	0	0	0	0	0	0	11

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

TACP PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
G01	Conduct mission analysis (MCM 3-3, Vol VIII)							
	0	0	3	9	0	0	0	0
G01A	Determine specified tasks							
	0	0	0	3	0	0	0	9
G01B	Determine implied tasks							
	0	0	1	2	0	0	0	9
G01C	Determine area of operations (sector/zone)							
	0	0	0	3	0	0	0	9
G01D	Determine available time							
	0	0	0	3	0	0	0	9
G01E	Identify specific Rules of Engagement (ROE) that apply to CAS/air							
	0	0	1	2	0	0	0	9
G02	Determine the commander's intent (MCM 3-3, Vol VIII)							
	0	0	0	12	0	0	0	0
G02A	Understand the purpose of the mission							
	0	0	0	3	0	0	0	9
G02B	Understand commander's intent for CAS							
	0	0	0	3	0	0	0	9
G03	Coordinate with S2 (MCM 3-3, Vol VIII)							
	0	0	3	9	0	0	0	0
G03A	Identify all available information and intelligence on the following:							
	0	0	0	2	0	0	0	10
G03A1	Enemy forces							
	0	0	0	3	0	0	0	9
G03A2	Terrain							
	0	0	0	3	0	0	0	9
G03A3	Weather							
	0	0	0	3	0	0	0	9
G03B	Determine what air intelligence assets are available							
	0	0	1	2	0	0	0	9
G03C	Ensure continuous flow of combat information from aircraft to the S2							
	0	0	2	1	0	0	0	9
G04	Analyze the terrain (MCM 3-3, Vol VIII)							
	0	0	2	10	0	0	0	0
G04A	Determine ground avenues of approach, choke points, and obstacles							
	0	0	0	3	0	0	0	9
G04B	Identify air avenues of approach							
	0	0	0	3	0	0	0	9
G04C	Determine the impact of weather on air operations							
	0	0	0	3	0	0	0	9
G04D	Identify physical control features							
	0	0	0	3	0	0	0	9
G04E	Determine the impact of the sun angle on air operations							
	0	0	0	2	0	0	1	9
G04F	Determine the elevation of targets in feet							
	0	0	0	3	0	0	0	9

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

TACP PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
G05	Analyze the enemy situation (MCM 3-3, Vol VIII)							
	0	0	4	8	0	0	0	0
G05A	Determine size, disposition, location, and organization of enemy forces							
	0	1	1	1	0	0	0	9
G05B	Identify current and anticipated enemy ADA capabilities, locations, and							
	0	0	2	1	0	0	0	9
G05C	Identify potential courses of action							
	0	0	1	2	0	0	0	9
G06	Identify air control measures (MCM 3-3, Vol VIII; ATP40; FM 100-103)							
	0	0	0	11	0	1	0	0
G06A	Confirm coordinating altitude (from above ground level (AGL))							
	0	0	0	3	0	0	0	9
G06B	Confirm air ROE							
	0	0	0	3	0	0	0	9
G06C	Identify and locate civilian airline routes							
	0	0	0	2	0	0	1	9
G06D	Determine restrictions and constraints such as							
	0	0	0	3	0	0	0	9
G06E	Identify or designate the following areas:							
	0	0	0	2	0	0	0	10
G06E1	High density airspace control zone (HIDACZ)							
	0	0	0	3	0	0	0	9
G06E2	Restricted Operations Zones (ROZ)							
	0	0	0	3	0	0	0	9
G06E3	Air ingress/egress routes							
	0	0	0	2	1	0	0	9
G06E4	Airspace Coordination Areas (ACA)							
	0	0	0	3	0	0	0	9
G06E5	Contact Points/Initial Points (CP/IP)							
	0	0	0	3	0	0	0	9
G06E6	Helicopter air corridors							
	0	0	2	1	0	0	0	9
G06E7	Minimum Risk Routes (MPR)							
	0	0	0	3	0	0	0	9
G06E8	Engagement Areas (EAs)							
	0	0	0	2	1	0	0	9
G06F	Identify/designate ROZs for air resupply areas/times for both air drop and							
	0	0	0	1	0	0	1	10
G07	Analyze friendly situation (MCM 3-3, Vol VIII)							
	0	0	6	6	0	0	0	0
G07A	Identify location of forward elements, Forward Line of Troops (FLOT) if							
	0	0	1	3	0	0	0	8
G07B	Determine location of indirect fire assets, to include artillery, mortars,							
	0	0	3	1	0	0	0	8
G07C	Identify helicopter areas of operation (AO), to include routes, lift, and							
	0	0	1	3	0	0	0	8

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

TACP PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
G07D	Identify UAV (Unmanned Air Vehicle) AOs							
	0	0	0	0	0	1	3	8
G07E	Determine location of the FSCL (Fire Support Coordination Line) and/or any							
	0	0	0	4	0	0	0	8
G07F	Coordinate with S3 on friendly plan, tactical situation, choke points,							
	0	0	3	1	0	0	0	8
G08	Determine communication requirements (MCM 3-3, Vol VIII; TAC Pam 50-20)							
	0	0	4	7	0	0	0	1
G08A	Identify locations which provide continuous communications with ground and							
	0	0	2	1	0	0	1	8
G08B	Determine communications requirements with ground forces, air forces, and							
	0	0	2	2	0	0	0	8
G08C	Identify ground retransmission requirements							
	1	0	1	0	0	1	1	8
G08D	Coordinate/control communications with the AFAC to avoid over tasking if							
	0	0	1	3	0	0	0	8
G08E	Develop air communication contingency plan							
	0	0	1	1	0	0	0	10
G08E1	HAVE-Quick (TOD, Mickey) frequency jumping equipment							
	0	0	1	0	0	0	3	8
G08E2	Chattermark (pre-determined alternate frequencies)							
	0	0	1	1	1	1	0	8
G09	Establish communications MCM 3-3, Vol VIII; TAC Pam 50-20)							
	0	1	4	7	0	0	0	0
G09A	Ensure air force frequencies in ATO are provided to army aviation							
	1	0	1	2	0	1	0	7
G09B	Coordinate/ensure distribution of authentication tables							
	0	1	4	0	0	0	0	7
G09C	Conduct full commo check on ground with AFAC/GFAC/TACP/AVN/FSO assets							
	0	2	1	1	0	1	0	7
G09D	Consider using ETAC with portable UHF in helicopter with AVN Air Battle							
	0	0	4	1	0	0	0	7
G10	Coordinate Air Defense Artillery control procedures (TAC Pam 50 20)							
	0	0	6	4	0	2	0	0
G10A	Identify Air Defense Artillery (ADA) activation procedures (FM early							
	0	0	3	0	0	1	0	8
G10B	Identify ADA change of status procedures							
	0	0	2	1	0	1	0	8
G10C	Identify air ingress/egress routes							
	0	0	2	1	0	1	0	8
G10D	Identify, and provide for, notification procedures for friendly air on							
	0	0	3	0	0	1	0	8
G10E	Coordinate, and provide information on, aircraft types, flight schedules,							
	0	0	3	0	0	1	0	3
G11	Coordinate with Army Aviation (TAC Pam 50-20; FM 1-111)							
	0	0	5	6	0	1	0	0

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

TACP PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
G11A	Identify responsibilities, aviation tasks and plans							
	0	0	1	2	0	1	0	8
G11B	Identify constraints/limitations in altitude and routes							
	0	0	2	2	0	0	0	8
G11C	Determine capabilities, type aircraft, callsigns, communications, and							
	0	0	1	3	0	0	0	8
G11D	Identify engagement areas							
	0	0	1	1	1	1	0	8
G11E	Identify critical locations, such as:							
	0	0	1	2	0	0	0	9
G11E1	Landing Zones							
	0	0	1	2	0	1	0	8
G11E2	Forward Arming and Refueling Points (FARP)							
	0	0	1	2	0	1	0	8
G11E3	Battle Positions (BPs)							
	0	0	2	1	0	1	0	8
G11E4	Aerial observation positions (AOPs)							
	0	0	1	2	0	1	0	8
G11F	Identify Joint Air Attack Team (JAAT) specific considerations							
	0	0	3	0	0	1	0	8
G11G	Coordinate for a Helo-FAC, assistant ALO/ETAC in aircraft with AVN Air							
	0	0	3	0	0	1	0	8
G12	Determine enemy ADA threat (MCM 3-3, Vol VIII; TACP Pam 50-20)							
	0	0	4	7	0	0	0	1
G12A	Identify type and capabilities of enemy ADA systems (type munitions and							
	0	0	1	2	0	0	0	9
G12B	Determine location of enemy ADA systems							
	0	0	2	0	0	1	0	9
G12C	Determine past and expected activities (movement/remain stationary) of							
	0	0	2	1	0	0	0	9
G13	Review air capabilities and priorities (TAC Pam 50-20; FM 6-20)							
	0	0	1	11	0	0	0	0
G13A	Brief ground commander on air capabilities and limitations							
	0	0	1	2	0	0	0	9
G13B	Brief FSO on aircraft, weapons capabilities, limitations, controls, lead							
	0	0	0	3	0	0	0	9
G13C	Confirm commander's intent and guidance on CAS							
	0	0	0	3	0	0	0	9
G13D	Nominate appropriate targets for air munitions							
	0	0	0	3	0	0	0	9
G13E	Air target selection priorities support both aircraft survival and the							
	0	0	0	3	0	0	0	9
G13F	Target priorities conform with the ground fire support plan							
	0	0	0	3	0	0	0	9
G14	Analyze fire support plan (MCM 3-3, Vol VIII; FM 6-20)							
	0	0	5	6	0	0	0	1

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

TACP PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
G14A	ALO is part of the fire support team							
	0	0	5	0	0	0	0	7
G14B	ALO and FSO coordinate on aircraft availability, munitions, capabilities,							
	0	0	2	3	0	0	0	7
G14C	ALO recommends appropriate target sequence and CAS is included in the fire							
	0	0	2	3	0	0	0	7
G14D	Primary concept for control measures in LIC is to separate artillery and							
	0	0	1	3	0	1	0	7
G14E	Fire support control measures are established							
	0	0	2	2	0	0	0	8
G14E1	Battle positions for army aviation							
	0	0	4	0	0	1	0	7
G14E2	No fire lines (NFL) and azimuth restrictions for artillery/mortars							
	0	0	2	3	0	0	0	7
G14E3	Engagement areas (EAs) identified by terrain features for CAS							
	0	0	0	5	0	0	0	7
G14E4	Other measures, such as FSCL, restrictive fire line (RFL), coordinated fire							
	0	0	2	3	0	0	0	7
G14F	Fire support system is prepared to shut down operations for critical CAS							
	0	0	3	1	0	1	0	7
G14G	The following information is identified:							
	0	0	2	1	0	0	0	9
G14G1	Location of indirect fire assets							
	0	0	2	1	0	0	0	9
G14G1A	Artillery guns							
	0	0	2	2	0	0	0	8
G14G1B	Multiple Launched Rocket Systems							
	0	0	1	1	0	0	1	9
G14G1C	Mortars							
	0	0	3	1	0	0	0	8
G14G2	Capabilities of indirect fire assets							
	0	0	2	2	0	0	0	8
G14G3	Missions, planned targets, and gun-target lines							
	0	0	4	0	0	0	0	8
G14G4	Sequence of engagement							
	0	0	2	1	0	1	0	8
G14G5	Maximum ballistic altitudes							
	1	1	1	1	0	0	0	8
G14G6	Movement sequence (timing and new locations)							
	0	0	3	0	0	1	0	8
G14G7	ACAs							
	0	0	2	2	0	0	0	9
G14G8	JAAT considerations							
	0	0	3	0	0	1	0	8
G15	Plan JSEAD (Joint Suppression of Enemy Air Defenses) (TAC Pam 50-20)							
	0	0	6	5	0	1	0	0

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

TACP PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
G15A	Identify enemy ADA systems known and probable locations							
	0	0	4	0	0	0	0	8
G15B	Determine type of suppression desired							
	0	0	2	2	0	0	0	8
G15C	Determine type of JSEAD available; air, artillery, army aviation, naval							
	0	0	2	2	0	0	0	8
G15D	Integrate JSEAD with adjacent units							
	0	0	3	0	0	1	0	8
G16	Determine risk to Airborne Forward Air Controller (MCM 3-3, Vol VIII)							
	0	0	1	10	0	0	0	1
G16A	Determine risk to Airborne Forward Air Controller (AFAC) during the							
	0	0	0	3	0	0	0	9
G16A1	Target observation							
	0	0	2	0	0	0	0	10
G16A2	Target marking							
	0	0	0	2	0	0	0	10
G16A3	Holding pattern							
	0	0	0	2	0	0	0	10
G16B	Identify AFAC position in relation to the enemy ADA threat							
	0	0	1	1	0	0	0	10
G16B1	Distance (range)							
	0	0	1	1	0	0	0	10
G16B2	Systems capabilities							
	0	0	2	0	0	0	0	10
G16C	Identify AFAC position in relation to friendly forces							
	0	0	1	0	0	0	0	11
G16C1	ADA							
	0	0	1	1	0	0	0	10
G16C2	Gun target lines							
	0	0	1	1	0	0	0	10
G16C3	Air routes							
	0	0	0	2	0	0	0	10
G16D	Confirm appropriateness of the AFAC altitude and holding pattern area							
	0	0	0	2	0	0	0	10
G17	Analyze targets (TAC PAM 50-20; FM 6-20)							
	0	0	4	8	0	0	0	0
G17A	Identify enemy locations							
	0	0	4	0	0	0	0	8
G17B	Determine target type							
	0	0	2	2	0	0	0	8
G17C	Determine the best method to defeat enemy targets							
	0	0	3	1	0	0	0	8
G17C1	Determine constraints imposed by munitions available and ROE							
	0	0	2	2	0	0	0	8
G17C2	Match munitions to type targets							
	0	0	0	4	0	0	0	8

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

TACP PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
G17D	Identify appropriate JSEAD requirements							
	0	0	4	0	0	0	0	8
G17E	Identify necessary suppression measures and appropriate suppression systems							
	0	0	3	1	0	0	0	8
G17F	Determine the impact of weather on air operations							
	0	0	1	3	0	0	0	8
G17G	Confirm engagement criteria							
	0	0	0	4	0	0	0	8
G17H	Determine methods to identify friendly locations							
	0	0	1	3	0	0	0	8
G17I	On receipt of ATO, ALO/FSO coordinate immediate 12 hour period and							
	0	0	1	3	0	0	0	8
G17I1	Number and type of aircraft and munitions							
	0	0	0	4	0	0	0	8
G17I2	Targets appropriate to aircraft and munitions							
	0	0	0	4	0	0	0	8
G18	Determine ground priority targets (MCM 3-3, Vol VIII)							
	0	0	2	10	0	0	0	0
G18A	S3/FSO establish target priorities							
	0	0	0	3	0	0	0	9
G18B	ALO recommends priorities for air attack							
	0	0	0	3	0	0	0	9
G18B1	Identify target type and munitions							
	0	0	0	3	0	0	0	9
G18B2	Integrate target with threat to friendly forces, determining risk to air							
	0	0	0	3	0	0	0	9
G19	Identify Initial Point (MCM 3-3, Vol VIII)							
	0	0	0	12	0	0	0	0
G19A	Identify location							
	0	0	0	4	0	0	0	8
G19A1	Appropriate distance from threat							
	0	0	0	4	0	0	0	8
G19A2	Easy to identify							
	0	0	0	4	0	0	0	8
G19B	Determine holding attitude							
	0	0	0	4	0	0	0	8
G19C	Confirm deconfliction of IP from gun target lines							
	0	0	0	4	0	0	0	8
G19D	Confirm communication capabilities							
	0	0	0	4	0	0	0	8
G20	Analyze ground scheme of maneuver (MCM 3-3, Vol VIII; TAC Pam 50-22)							
	0	0	3	9	0	0	0	0
G20A	Identify forward line of troops (FLOT) and/or battle positions (BPs)							
	0	0	2	2	0	0	0	8
G20B	Identify location of elements forward of the FLOT or operating							
	0	0	2	2	0	0	0	8

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

TACP PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
G20C	Identify methods of marking friendly troop locations (Glint tape, VS-17)							
	0	0	0	3	1	0	0	8
G20D	Identify engagement areas (EAs) (designated areas with no friendly troops)							
	0	0	0	3	1	0	0	8
G20E	Identify maneuver restrictions, such as boundaries							
	0	0	1	3	0	0	0	8
G20F	Identify other control measures on troop movement or location, as required							
	0	0	1	3	0	0	0	8
G20G	Determine how to ensure							
	0	0	1	3	0	0	0	8
G21	Continuously Analyze Intelligence Developments (TACM 3-1 VI)							
	0	0	4	8	0	0	0	0
G21A	Integrate strategic and higher echelon information and intelligence from							
	0	0	1	1	0	0	1	9
G21A1	JSTAR							
	0	0	0	0	0	0	3	9
G21A2	U2/TR1							
	0	0	0	1	0	0	2	9
G21A3	Div/Corps G2							
	0	0	0	3	0	0	0	9
G21B	Integrate information and intelligence from own unit's assets, such as:							
	0	0	2	1	0	0	0	9
G21B1	Reconnaissance elements/scout platoon							
	0	0	2	1	0	0	0	9
G21B2	Ground assets/maneuver units							
	0	0	2	1	0	0	0	9
G21B3	Ensure S2 receiving immediate tactical information observed by aircraft in							
	0	0	2	1	0	0	0	9
G21B4	Other available assets							
	0	0	1	0	0	0	2	9
G21C	Brigade TACP gathers information/intelligence and disseminates to other							
	0	0	1	2	0	0	0	9
G22	Initiate Close Air Support (CAS) request (FM 90-21)							
	0	0	1	10	0	0	0	1
G22A	Request supports ground scheme of maneuver							
	0	0	0	3	0	0	0	9
G22B	Request supports fire support plan							
	0	0	2	1	0	0	0	9
G22C	Request conforms to intelligence estimate							
	0	0	2	1	0	0	0	9
G22D	ALO identifies preplanned air requirements and prepares request for FSO/S3							
	0	1	1	1	0	0	0	9
G22E	If preplanned, request contains desired air control measures for inclusion							
	0	0	2	1	0	0	0	9
G22F	If immediate CAS, S3/ALO ensures request contains information necessary to							
	0	0	1	1	0	0	0	10

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

TACP PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
G23	Determine what air is planned (MCM 3-3, Vol VIII)							
	0	0	0	11	0	0	0	1
G23A	TACP receives information on planned air sorties from the ATO							
	0	0	0	2	0	0	0	10
G23B	Determine type of aircraft, capabilities and munitions							
	0	0	0	2	0	0	0	10
G23C	Determine when the aircraft will arrive and how long aircraft will remain							
	0	0	0	2	0	0	0	10
G23D	Determine Electronic Warfare (EW) capabilities							
	0	0	1	1	0	0	0	10
G23E	Determine projected sortie allocation							
	0	0	1	1	0	0	0	10
G24	Determine what air is available (MCM 3-3, Vol VIII)							
	0	0	0	10	0	0	0	2
G24A	Based on the ATO and communications with higher, the TACP identifies all							
	0	0	0	0	0	0	0	12
G24B	Determine type aircraft, capabilities, and munitions							
	0	0	0	0	0	0	0	12
G24C	Determine when and how long aircraft will be available							
	0	0	0	0	0	0	0	12
G24D	Determine EW assets and capabilities							
	0	0	1	0	0	0	0	11
G24E	Determine air priority of effort in the AO							
	0	0	0	0	0	0	0	12
G24F	Determine projected tanker support							
	0	0	0	0	0	0	1	11
G24G	Determine projected Airborne Warning and Control System (AWACS)							
	0	0	0	0	0	0	1	11
G24H	Determine projected fighter coverage							
	0	0	0	1	0	0	0	11
G24I	Determine projected suppression coverage (JSEAD and Weasel)							
	0	0	1	0	0	0	0	11
G24J	TACP identifies aircraft on the way (2 hours out) and coordinates with							
	0	0	1	0	0	0	0	11
G25	Determine target identification procedures (TAC Pam 50-28; FM 6-20)							
	0	0	1	10	0	0	0	1
G25A	Determine target marking procedures							
	0	0	0	1	0	0	0	11
G25B	Determine the utility of using target marking methods, such as laser,							
	0	0	0	1	0	0	0	11
G25C	Identify easy to locate terrain features							
	0	0	0	1	0	0	0	11
G25D	Ensure distinction between target marking and method for marking friendly							
	0	0	0	1	0	0	0	11
G26	Develop contingency plans (TACM 3-1 VI, FM 6-20)							
	0	0	4	6	0	1	0	1

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

TACP PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
G26A	Identify secondary targets for CAS							
	0	0	2	0	0	0	0	10
G26A1	Identify alternate engagement areas							
	0	0	2	0	0	0	0	10
G26A2	Prepare for second echelon engagement							
	0	0	2	0	0	0	0	10
G26B	Identify back-up communications (ie. fire supportnet/radios, relay to AFAC							
	0	0	2	0	0	0	0	10
G26C	Coordinate for emergency control of CAS in event of ALO/ETAC KIA							
	0	0	2	0	0	0	0	10
G26D	Determine FSO/FO ability to control CAS in emergency							
	0	0	2	0	0	0	0	10
G27	Organize for combat (MCM 3-3, Vol VIII)							
	0	0	1	10	0	0	0	1
G27A	Establish chain of command							
	0	0	0	1	0	0	0	11
G27B	Identify locations for TACP elements that provide for observation of target							
	0	0	0	1	0	0	0	11
G27B1	AFAC							
	0	0	0	1	0	0	0	11
G27B2	GFAC							
	0	0	0	1	0	0	0	11
G27B3	Flight lead control							
	0	0	0	1	0	0	0	11
G27C	Identify locations provide uninterrupted communication with air and ground							
	0	0	0	1	0	0	0	11
G27D	Determine position of Air Liaison Officer within the command group for							
	0	0	0	1	0	0	0	11
G27E	Identify CAS final control authority							
	0	0	0	1	0	0	0	11
G28	Designate subordinate responsibilities (MCM 3-3, Vol VIII)							
	0	0	0	11	0	0	0	1
G28A	Confirm responsibilities for battalion TACPs							
	0	0	0	0	0	0	0	12
G28B	Confirm required actions of the Brigade TACP							
	0	0	0	0	0	0	0	12
G28C	Ensure any special instructions are disseminated to all subordinate							
	0	0	0	0	0	0	0	12
G28D	Confirm that all subordinates are capable of fulfilling their assigned							
	0	0	0	0	0	0	0	12
G29	Confirm aircraft allocation (MCM 3-3, Vol VIII; TACM 55-46)							
	0	0	0	12	0	0	0	0
G29A	The following information is confirmed as early as possible:							
	0	0	0	4	0	0	0	8
G29A1	Type of aircraft							
	0	0	0	5	0	0	0	7

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

TACP PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
G29A2	When the aircraft will arrive							
	0	0	0	5	0	0	0	7
G29A3	Munitions							
	0	0	1	4	0	0	0	7
G29A4	Number of sorties and station time							
	0	0	0	5	0	0	0	7
G30	Confirm CAS integration with Brigade Synch Matrix (FM 6-20)							
	0	0	1	9	0	1	0	1
G30A	CAS plan conforms with Decision Support Template							
	0	0	0	1	0	6	0	5
G30B	ALO and CAS are integrated into fire support rehearsals							
	0	0	0	4	0	0	0	8
G30C	CAS is synchronized with scheme of maneuver							
	0	0	0	4	0	0	0	8
G30C1	Timing							
	0	0	2	2	0	0	0	8
G30C2	Command or event driven sequence							
	4	0	2	1	0	0	0	5
G30D	CAS is incorporated into the fire support execution matrix and is							
	0	0	1	2	0	0	0	9
G30D1	Timing							
	3	0	2	2	0	0	0	5
G30D2	Command or event driven sequence							
	0	0	4	1	0	0	0	7
G30D3	Targets							
	4	0	2	1	0	0	0	5
G30E	CAS is synchronized with Army Aviation							
	0	0	3	1	0	0	0	8
G30E1	Timing							
	0	0	4	1	0	0	0	7
G30E2	Battle positions							
	4	0	2	1	0	0	0	5
G30E3	Engagement areas							
	0	0	2	2	0	0	0	8
G30F	Plan for continuous CAS missions							
	0	0	1	2	0	4	0	5
G31	Confirm plan with Fire Support Element (FM 6-20)							
	0	0	5	6	0	0	0	1
G31A	Confirm that CAS plan is synchronized with indirect fire plan and included							
	0	0	1	1	0	4	0	6
G31A1	Sequence of attack							
	0	0	2	1	0	4	0	5
G31A2	Timing							
	0	0	1	2	0	4	0	5
G31A3	Engagement areas							
	0	0	2	1	0	4	0	5

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

TACP PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
G31A4	Targets							
	0	1	2	1	0	4	0	4
G31B	Ensure that masking of indirect fires is minimized							
	0	0	1	1	0	3	0	7
G31C	Review CAS target list for appropriateness							
	4	0	0	2	0	0	0	6
G31D	Identify coordination considerations with Army Aviation							
	0	0	5	1	0	0	0	6
G31E	ALO and CAS are integrated into fire support rehearsals							
	0	0	0	5	0	0	0	7
G32	Confirm airspace control measures (MCM 3-3, Vol VIII; TACR 55-46)							
	0	0	0	10	0	1	0	1
G32A	Review airspace control order (ACO) and identify any changes to initial							
	0	0	0	4	0	0	0	8
G32B	Identify local airspace restrictions for areas, altitude, times, and routes							
	0	0	0	4	0	0	0	8
G32C	Specifically identify ROZs for army aviation operations (FARPs, BPs, etc.)							
	0	0	1	3	0	0	0	8
G32D	Monitor status of airfields and specifically identify ROZs for air routes,							
	0	0	0	3	0	1	0	8
G32E	Specifically identify no fire areas due to ROE or friendly ground force							
	0	0	0	3	4	0	0	5
G32F	Confirm ADA restricted operations areas (ROAs), weapons free zones, and							
	0	0	1	3	0	0	0	8
G33	Confirm communications (MCM 3-3, Vol VIII; TAC Pam 50-20)							
	0	0	2	8	0	0	0	2
G33A	Confirm frequencies from ATO and distribution of frequencies to							
	1	0	1	2	0	0	0	8
G33B	Confirm distribution of proper authentication tables [AKAC 1553] to army							
	1	1	0	2	0	0	0	8
G33C	Conduct communications check and confirm communications capability (to							
	0	0	2	2	0	0	0	8
G33C1	TACP elements							
	0	0	2	1	0	0	1	8
G33C2	Air forces							
	0	0	2	1	0	0	0	9
G33C3	Army aviation							
	2	4	0	0	0	0	0	6
G33C4	Ground forces							
	0	0	6	0	0	0	0	6
G34	Deconflict airspace (TAC Pam 50-28; FM 100-103)							
	0	0	1	9	0	1	0	1
G34A	ACO provides for deconfliction of overall airspace into brigade AO							
	0	0	0	2	1	1	0	8
G34B	Within brigade AO, brigade plan minimizes potential fratricide situations							
	0	0	1	3	0	0	0	8

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

TACP PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
G34C	Brigade plan minimizes the masking of fires for all elements							
	0	0	0	3	0	1	0	8
G34D	Plan provides for reaction to aircraft ingressing and egressing the AO							
	0	0	0	4	0	0	0	8
G34E	Confirm that all the following assets are operating in concert:							
	0	0	0	3	0	0	0	9
G34E1	CAS							
	0	0	0	3	0	0	0	9
G34E2	Helicopters (attack, lift, and scout)							
	0	0	1	2	0	0	0	9
G34E3	Indirect fires (artillery, mortars, and naval gunfire)							
	0	0	1	2	0	0	0	9
G34E4	ADA							
	0	0	1	2	0	0	0	9
G34E5	UAV							
	0	0	0	0	0	3	0	9
G34F	FSO overlays indirect fire asset data (locations, gun target lines, maximum							
	0	0	1	3	0	0	0	8
G34G	Monitor planned and outgoing fires							
	0	0	2	2	0	0	0	8
G35	Brief AFAC on threat (MCM 3-3, Vol VIII)							
	0	0	2	8	0	1	0	1
G35A	Size, disposition, locations and organization of enemy forces							
	0	0	2	2	0	0	0	8
G35B	Current and anticipated enemy ADA capabilities, locations, and activities							
	0	0	2	2	0	0	0	8
G35C	Current and forecasted weather							
	0	0	2	2	0	0	0	8

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
GA36	Establish communications with CAS (TAC Pam 50-28;TAC Pam 50-20)							
	0	0	1	6	0	0	0	6
GA36A	Confirm/establish communications with incoming CAS (fighters)							
	0	0	0	7	0	0	0	6
GA36A1	Conduct authentication							
	0	0	1	6	0	0	0	6
GA36A2	Activate Chattermach (alternate frequency) plan							
	0	0	0	3	0	3	1	6
GA36B	Continuous communications are maintained between the following:							
	0	0	0	4	0	0	0	9
GA36B1	CAS and FAC							
	0	0	0	7	0	0	0	6
GA36B2	FAC and TACP							
	0	0	0	7	0	0	0	6
GA36B3	TACP and command group							
	0	0	1	2	0	4	0	6
GA36C	Army Aviation maintains communication with the following:							
	0	0	0	1	0	3	0	9
GA36C1	Command group							
	0	0	0	2	0	5	0	6
GA36C2	TACP							
	0	1	0	2	0	4	0	6
GA36C3	FAC (if JAAT)							
	0	0	1	2	0	4	0	6
GA37	Confirm Fighter line-up (TAC Pam 50-22)							
	0	0	0	7	0	0	0	6
GA37A	Call sign							
	0	0	0	6	0	0	0	7
GA37B	Mission number							
	0	0	0	6	0	0	0	7
GA37C	Ordnance and fusing							
	0	0	0	6	0	0	0	7
GA37D	On station time (playtime)							
	0	0	0	6	0	0	0	7
GA37E	Abort code							
	0	0	0	6	0	0	0	7
GA38	Deconflict airspace (TAC Pam 50-28)							
	0	0	0	5	0	0	0	8
GA38A	Shift or lift indirect fires							
	0	0	0	1	0	5	0	7
GA38B	Shift other air assets, such as helicopters or UAVs							
	0	0	0	1	0	5	0	7
GA38C	Update ADA status							
	0	0	0	4	0	2	0	7
GA38D	Establish CAS holding points							
	0	0	0	6	0	0	0	7

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess	
GA38E	Prepare to stack fighters	0	0	0	1	0	5	0	7
GA38F	Avoid air drop/air land ROZs	0	0	0	1	0	5	0	7
GA39	React to delay of aircraft (TAC Pam 50-28)	0	0	0	1	0	7	0	5
GA39A	Confirm new time	0	0	0	2	0	3	0	8
GA39B	Determine changes in ground situation	0	0	0	2	0	3	0	8
GA39C	Confirm targets	0	0	0	2	0	3	0	8
GA39D	Develop new targets	0	0	0	2	0	3	0	8
GA39E	Activate contingency plans	0	0	0	1	0	4	0	8
GA40	Announce arrival of friendly air (MCM 3-3, Vol VIII)	0	0	1	6	0	1	0	5
GA40A	AFAC Notify TACP	0	0	0	6	0	0	0	7
GA40B	TACP notify command group	1	0	0	1	0	4	0	7
GA41	Identify target priorities to pilots (TAC Pam 50-22)	0	0	1	7	0	0	0	5
GA41A	Ensure that pilots understand target priorities	0	0	1	4	0	0	0	8
GA41B	Ensure that pilots understand CAS attack sequence	0	0	1	4	0	0	0	8
GA42	Control CAS during Army Aviation mission (TAC Pam 50-20)	0	0	0	2	0	6	0	5
GA42A	Confirm call signs for all aircraft	0	0	0	4	0	0	0	9
GA42B	Confirm JFIRE/JAAT targets	0	0	0	2	0	2	0	9
GA42C	Confirm target locations for:	0	0	0	2	0	1	0	10
GA42C1	CAS	0	0	0	4	0	0	0	9
GA42C2	Army Aviation	0	0	0	0	0	4	0	9
GA42C3	Indirect fires	0	0	0	0	0	4	0	9
GA42D	Confirm target marking procedures	0	0	1	2	0	1	0	9
GA42E	Confirm friendly location marking procedures	0	0	0	3	0	1	0	9

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
GA43	Brief JFIRE (9 Line) to aircraft at IP/CP (MCM 3-3, Vol VIII)							
	0	0	0	7	0	1	0	5
GA43A	Briefing follows prescribed format							
	0	0	0	4	0	0	0	9
GA43B	CAS aircraft have current information on the following:							
	0	0	0	2	0	0	0	11
GA43B1	Targets							
	0	0	0	4	0	0	0	9
GA43B2	Friendly situation							
	0	0	0	4	0	0	0	9
GA43B3	Hazards (ADA, enemy, indirect fires, etc.)							
	0	0	2	2	0	0	0	9
GA44	Confirm friendly locations with aircraft (TAC Pam 50-22;MCM 3-3,Vol VIII)							
	0	0	0	7	0	0	0	6
GA44A	TACP coordinates with S3/FSO on last known friendly locations and friendly							
	0	0	0	0	0	4	0	9
GA44B	TACP transmits information to AFAC, who forwards to attack aircraft							
	0	0	0	4	0	0	0	9
GA44C	Pilots can identify FLOT							
	0	0	0	4	0	0	0	9
GA44D	Pilots can identify location of elements forward of the FLOT							
	0	0	1	3	0	0	0	9
GA44E	Pilots are aware of other aircraft in the area							
	0	0	0	4	0	0	0	9
GA44F	Pilots understand the danger close (1000 meters) criteria							
	0	0	0	2	0	2	0	9
GA45	Confirm target locations with aircraft (TAC Pam 50-22;MCM 3-3, Vol VIII)							
	0	0	0	8	0	0	0	5
GA45A	Ensure that CAS aircraft can identify the targets							
	0	0	0	4	0	0	0	9
GA45B	Designate targets:							
	0	0	0	4	0	0	0	9
GA45B1	By grid							
	0	0	0	5	0	0	0	8
GA45B2	From known terrain feature							
	0	0	0	5	0	0	0	8
GA45B3	By marking designator							
	0	0	1	2	1	1	0	8
GA46	Initiate JSEAD effort (MCM 3-3, Vol VIII)							
	0	0	0	0	0	8	0	5
GA46A	Execute prior to CAS attack							
	0	0	0	0	0	4	0	9
GA46B	Confirm targets							
	0	0	0	0	0	4	0	9
GA46C	Confirm method of attack							
	0	0	0	0	0	4	0	9

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
GA46C1	CAS	0	0	0	0	4	0	9
GA46C2	Army Aviation	0	0	0	0	4	0	9
GA46C3	Indirect fires (Artillery, Naval gunfire)	0	0	0	0	4	0	9
GA46C4	Electronic warfare	0	0	0	0	4	0	9
GA46D	Confirm effectiveness of attack	0	0	0	0	4	0	9
GA47	Confirm attack approval from ground commander (TAC Pam 50-28)	0	0	1	3	0	4	5
GA47A	Ensure ground commander is aware of the target type and location	0	0	0	1	0	3	9
GA47B	Ensure ground commander is aware of the time of attack and munitions to be	0	0	1	0	0	3	9
GA47C	Ensure ground commander is aware of closest friendly unit to the attack and	0	0	1	0	0	3	9
GA48	Issue attack clearance (MCM 3-3, Vol VIII)	0	0	0	7	0	1	5
GA48A	Identify final authority	0	0	0	3	0	0	10
GA48B	Confirm abort code	0	0	0	2	0	1	10
GA48C	Confirm type of clearance	0	0	0	3	0	0	10
GA48C1	Depart IP	0	0	0	3	0	0	10
GA48C2	On Final	0	0	0	3	0	0	10
GA48C3	Flight Lead Control	0	0	0	2	0	1	10
GA49	Confirm target approach (MCM 3-3, Vol VIII)	0	0	1	5	0	2	5
GA49A	Ensure that the ground forces confirm the air corridor, attack altitude,	0	0	1	2	0	1	9
GA49B	Ensure that the air forces confirm the air corridor, attack altitude, and	0	0	1	2	0	1	9
GA50	Direct attack on targets (TAC Pam 50-28)	0	0	0	7	0	1	5
GA50A	Execute JSEAD	0	0	0	1	0	2	10
GA50B	Direct CAS to targets	0	0	0	3	0	0	10
GA50C	Identify targets for aircraft using smoke, laser, geographic references,	0	0	0	2	0	1	10

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
GA51	Continuously update aircraft (TAC Pam 50-28;TAC Pam 50-20)							
	0	0	2	6	0	0	0	5
GA51A	Anticipate ground maneuver speed							
	0	0	2	1	0	2	0	8
GA51B	Continuously give aircraft known and probable locations of enemy forces							
	0	0	2	3	0	0	0	8
GA51C	Continuously give aircraft locations of friendly forces							
	0	0	2	3	0	0	0	8
GA51D	Continuously update aircraft on the ground tactical situation							
	0	1	1	1	0	2	0	8
GA52	Request pilot observations (MCM 3-3, Vol VIII)							
	0	0	0	8	0	0	0	5
GA52A	Determine size of enemy forces							
	0	0	1	3	0	0	0	9
GA52B	Determine enemy disposition							
	0	0	1	3	0	0	0	9
GA52C	Determine type of enemy force							
	0	0	1	3	0	0	0	9
GA52D	Identify movement							
	0	0	1	3	0	0	0	9
GA53	Disseminate pilot observations (MCM 3-3, Vol VIII)							
	0	0	1	2	0	5	0	5
GA53A	TACP receives pilot tactical observations							
	0	0	1	2	0	1	0	9
GA53B	TACP ensures all pilot tactical observations are immediately passed to the							
	0	0	1	1	0	2	0	9
GA54	Determine Battle Damage Assessment (TAC Pam 50-22;MCM 3-3, Vol VIII)							
	0	0	0	3	0	5	0	5
GA54A	Identify friendly aircraft losses							
	0	0	0	3	0	1	0	9
GA54B	Identify enemy personnel and equipment losses by type, estimated quantity,							
	0	0	0	2	0	2	0	9
GA55	Execute FAC handoff (TAC Pam 50-28;TAC Pam 50-22;MCM 3-3, Vol VIII)							
	0	0	0	8	0	0	0	5
GA55A	Designate FAC responsibilities (in cases of multiple FACs)							
	0	0	0	3	1	0	0	9
GA55B	Update incoming FAC on situation							
	0	0	0	4	0	0	0	9
GA55C	Ensure continuous and unimpeded CAS support							
	0	0	1	3	0	0	0	9
GA55D	GFAC prepared to assume direct control of aircraft							
	0	0	0	3	0	1	0	9

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

MANUEVER [ALL] PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
M01	Conduct mission analysis (AMTP 71-3, Task 71-3-3001; FM 101-5)							
	0	3	6	14	0	3	11	11
M01A	Determine specified tasks							
	0	3	5	19	0	2	2	17
M01B	Determine implied tasks							
	0	4	7	16	0	2	2	17
M01C	Determine area of operations (sector/zone)							
	0	6	3	17	1	2	2	17
M01D	Determine available time							
	0	4	4	17	1	3	2	17
M01E	Identify specific Rules of Engagement (ROE) that apply to CAS/air							
	3	4	5	8	0	7	4	17
M02	Determine the commander's intent (AMTP 71-3, Task 71-3-9001; FM 101-5)							
	0	7	1	16	0	1	12	11
M02A	Understand the purpose of the mission							
	1	5	2	17	0	0	2	21
M02B	Understand commander's intent for CAS							
	4	4	4	8	0	2	4	22
M03	S2 prepares Intelligence Estimate (AMTP 71-3, Task 71-3-2001; FM 34-1)							
	2	5	3	7	0	1	18	12
M03A	Perform IPB and identify all available information and intelligence on							
	1	4	4	5	0	0	5	29
M03B	Determine availability of air intelligence assets in addition to normal							
	3	2	3	2	0	2	7	29
M03C	Request continuous flow of combat information from aircraft to S2							
	3	4	0	1	0	2	9	29
M03D	Ensure continuous flow of new intelligence to the Air Liaison Officer							
	6	6	1	1	0	0	6	28
M03E	Request G2 input on deep enemy ADA threat							
	4	2	2	2	0	0	11	27
M03F	Coordinate with TACP if not receiving pilot tactical information							
	4	4	0	1	0	1	8	30
M04	S2 analyze the terrain (AMTP 71-3, Task 71-3-2001, 2003; FM 34-1)							
	2	0	7	7	0	1	17	14
M04A	Determine ground avenues of approach, choke points, and obstacles							
	1	1	5	8	1	0	6	26
M04B	Identify air avenues of approach							
	1	3	9	6	1	0	5	23
M04C	Determine the impact of weather on air operations							
	2	0	6	8	1	1	6	24
M05	S2 analyze the enemy situation (AMTP 71-3, Task 71-3-2001, 2003, 2005; FM							
	2	2	3	9	0	1	16	15
M05A	Determine size, disposition, location, and organization of enemy forces							
	1	1	4	8	0	0	5	29
M05B	Identify current and anticipated enemy ADA capabilities, locations, and							
	2	3	2	10	0	0	5	26

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

MANUEVER [ALL] PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
M05C	Identify potential courses of action							
	1	1	5	7	0	0	5	29
M05D	Determine impact of weather on enemy ADA							
	6	2	5	4	0	0	5	26
M05E	Pass targeting data to S3/FSO							
	2	6	10	0	0	0	5	25
M06	S3/FSO develop/provide friendly situation (AMTP 71-3, Task 71-3-3002,							
	3	2	9	4	0	1	17	12
M06A	Identify and provide location of forward elements, Forward Line of Troops							
	2	4	6	7	0	0	3	26
M06B	Identify location of indirect fire assets, to include artillery, mortars,							
	0	3	3	12	0	0	4	26
M06C	Identify helicopter areas of operation (AO), to include routes, lift, and							
	3	10	2	4	0	0	3	26
M06D	Identify UAV (Unmanned Air Vehicle) AOs							
	1	1	0	1	0	1	18	26
M06E	Determine and provide location of the FSCL (Fire Support Coordination Line)							
	0	3	3	10	0	0	6	26
M06F	Identify Host country fire restrictive measures							
	2	3	3	4	0	2	8	26
M06G	Provide friendly maneuver plan, tactical situation, choke points, trigger							
	1	10	4	2	0	1	3	27
M07	A2C2 element identify or develop air control measures (AMTP 71-3, Task							
	5	7	2	2	2	3	11	16
M07A	Identify area for which the brigade is responsible (vertical, left, and							
	1	3	2	4	1	2	5	30
M07B	Identify users of the airspace and their requirements (army aviation, air							
	4	6	2	7	0	1	3	25
M07C	Identify areas impacting on air operations							
	2	4	1	2	1	1	2	35
M07C1	Aviation unit and FARP locations							
	4	3	1	2	1	2	5	30
M07C2	Artillery locations and planned fires							
	2	4	1	3	1	1	6	30
M07C3	RPV launch and recovery sites and flight paths							
	2	2	0	0	0	5	11	28
M07C4	ADA locations, engagement zones, and coverage							
	3	6	7	1	0	5	2	24
M07C5	Positions of instrument landing systems, navigation aids (NAVAID), flight							
	1	2	0	1	0	3	11	30
M07D	Identify user priorities, restrictions, and control measures							
	1	4	1	1	1	2	4	34
M07D1	Confirm coordinating altitude (from above ground level (AGL))							
	2	3	0	3	3	2	5	30
M07D2	Confirm air ROE							
	4	4	0	3	1	3	5	28

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

MANUEVER [ALL] PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
M07D3	Identify and locate civilian airline routes							
	3	3	0	0	0	4	8	30
M07D4	Determine restrictions and constraints such as 'no fly zones'							
	4	4	0	4	0	2	5	29
M07E	Identify or designate the following areas:							
	1	2	0	0	1	3	5	36
M07E1	High density airspace control zone (HIDACZ)							
	1	2	0	0	0	7	9	29
M07E2	Restricted Operations Zones (ROZ)							
	1	3	1	2	1	2	9	29
M07E3	Air ingress/egress routes							
	2	6	0	4	1	3	4	28
M07E4	Airspace Coordination Areas (ACA)							
	3	3	0	1	0	4	7	30
M07E5	Contact Points/Initial Points (CP/IP)							
	2	3	1	4	0	2	7	29
M07E6	Helicopter air corridors							
	4	3	1	2	3	2	5	28
M07E7	Minimum Risk Routes (MRR)							
	6	5	0	1	1	4	5	26
M07E8	Engagement Areas (EAs)							
	5	1	3	2	1	3	5	28
M07F	Identify/designate ROZs for air resupply areas/times for both air drop and							
	1	2	3	3	1	2	6	30
M08	Determine communication requirements (AMTP 71-3, Task 71-3-1101)							
	3	2	5	8	1	1	16	12
M08A	Identify locations which provide continuous communications with ground and							
	2	1	4	11	1	2	2	25
M08B	Determine communications requirements with ground forces, air forces, and							
	2	3	4	7	1	2	4	25
M08C	Identify ground retransmission requirements							
	1	3	4	6	1	2	6	25
M08D	Coordinate with TACP to use AFAC as communications relay, if necessary							
	3	1	3	6	0	7	3	25
M09	Establish communications (AMTP 71-3, Task 71-3-1102)							
	4	0	4	6	0	3	17	14
M09A	Request air force frequencies (in ATO) and provide to army aviation and							
	1	1	4	7	0	4	6	25
M09B	Coordinate for, and ensure distribution of, authentication tables [AKAC							
	2	0	4	8	1	4	4	25
M10	Develop Air Defense Artillery control procedures (AMTP 71-3, Task							
	0	5	7	6	0	3	12	15
M10A	Coordinate ADA operations through the S3							
	0	3	4	9	0	2	2	28
M10B	Identify location and status of ADA units in brigade area							
	1	6	5	4	0	3	2	27

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

MANUEVER [ALL] PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
M10C	Identify Air Defense Artillery (ADA) activation procedures (FM early	2	4	4	6	0	3	27
M10D	Maintain current ADA status and identify ADA changes of status/control	1	5	5	4	0	4	27
M10E	Identify air ingress/egress routes	3	4	2	8	0	3	27
M10F	Identify Restrictive Operation Areas (ROAs) and weapons free zones	4	1	2	2	0	6	27
M11	Coordinate Army Aviation employment (AMTP 71-3, Task 71-3-3011, 3012, 7001;	1	3	3	3	0	4	15
M11A	Identify responsibilities, aviation tasks and plans	0	2	3	4	0	3	7
M11B	Identify constraints/limitations in altitude and routes	1	2	1	4	0	4	7
M11C	Determine capabilities, type aircraft, callsigns, communications, and	0	2	4	3	0	2	7
M11D	Identify ROE	0	3	3	1	1	2	7
M11E	Identify engagement areas	2	0	2	2	1	4	6
M11F	Identify critical locations, such as:	0	0	2	4	0	2	5
M11F1	Landing zones	0	2	3	6	0	2	5
M11F2	Forward Arming and Refueling Points (FARP)	1	1	1	4	0	3	7
M11F3	Battle Positions (BPs)	0	1	2	4	0	3	8
M11F4	Aerial observation positions (AOPs)	0	2	3	1	0	5	7
M11G	Identify Joint Air Attack Team (JAAT) specific considerations	3	1	1	0	0	5	8
M11H	Aviation assets are incorporated into priority of fires and JSEAD	2	1	3	4	1	3	6
M12	S2 determine enemy ADA threat (AMTP 71-3, Task 71-3-2003, 2005)	1	2	9	8	1	1	15
M12A	Identify type and capabilities of enemy ADA systems (type munitions and	0	2	9	9	0	0	5
M12B	Determine locations of enemy ADA systems	1	3	10	6	0	0	5
M12C	Determine past and expected activities (movement/remain stationary) of	0	4	10	4	0	0	5
M12D	Pass targeting data to S3/FSO for JSEAD planning	1	6	6	5	0	0	5
M13	Develop fire support plan (AMTP 71-3, Task 71-3-3009, 3012, 9001, 9002; FM	1	4	4	4	0	1	20

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY
MANUEVER [ALL] PLANNING & PREPARATION TASKS, ALL LEVELS
ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
M13A	FSO advises on fire support capabilities, limitations, and coordinating							
	0	2	2	10	2	0	3	29
M13B	ALO is part of the fire support team and advises on air capabilities and							
	2	6	5	2	1	0	3	29
M13C	FSO and ALO coordinate on aircraft availability, munitions, capabilities,							
	2	7	4	3	0	0	3	29
M13D	FSO includes CAS in the fire support execution matrix							
	4	5	4	2	1	0	3	29
M13E	Primary concept for control measures in LIC is to separate artillery and							
	1	3	2	2	0	1	9	30
M13F	Fire support control measures are established							
	0	7	4	2	0	1	3	31
M13F1	Battle positions for army aviation							
	2	6	4	1	1	2	4	28
M13F2	No fire lines (NFL) and azimuth restrictions for artillery/mortars							
	6	5	1	2	0	1	5	28
M13F3	Engagement areas (EAs) identified by terrain features for CAS							
	6	5	2	1	0	1	4	29
M13F4	Other measures, such as FSCL, restrictive fire line (RFL), coordinated fire							
	1	7	2	4	1	0	4	29
M13G	Artillery is positioned to not interfere with airlines of							
	3	2	0	5	1	4	4	29
M13H	Fire support system is prepared to shut down operations for critical CAS							
	4	2	0	4	0	5	3	30
M13I	The following information is identified and maintained:							
	0	4	2	5	1	0	4	32
M13I1	Location of indirect fire assets							
	0	3	2	9	0	0	5	29
M13I1A	Artillery guns							
	0	3	2	10	1	0	5	27
M13I1B	Multiple Launched Rocket Systems							
	0	1	1	0	0	0	19	27
M13I1C	Mortars							
	0	3	3	9	1	0	5	27
M13I2	Capabilities of indirect fire assets							
	0	3	3	9	1	0	5	27
M13I3	Missions, planned targets, and gun-target lines							
	0	6	3	6	1	0	5	27
M13I4	Sequence of engagement							
	1	5	3	5	0	1	6	27
M13I5	Maximum ballistic altitudes							
	6	4	2	1	0	3	5	27
M13I6	Movement sequence (timing and new locations)							
	0	4	5	2	0	3	7	27
M13I7	ACAs							
	3	4	3	2	0	3	6	27

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

MANUEVER [ALL] PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
M13I8	JAAT considerations							
	5	5	1	1	0	4	5	27
M14	Plan JSEAD (Joint Suppression of Enemy Air Defenses) (AMTP 71-3, Task							
	3	3	7	7	0	5	10	13
M14A	S2 identifies enemy ADA system/targets							
	1	2	6	9	2	2	4	22
M14B	Determine ADA target locations							
	2	3	6	7	2	3	3	22
M14C	Determine type of suppression							
	1	2	9	4	0	3	5	24
M14D	Determine type of JSEAD available							
	1	2	9	3	0	4	5	24
M14E	Integrate JSEAD with adjacent units							
	3	3	7	2	0	5	4	24
M15	Analyze targets (AMTP 71-3, Task 71-3-2003, 2006, 3004, 9003, 9004; FM							
	1	4	8	8	0	1	13	13
M15A	S2 identifies enemy locations							
	0	2	8	9	0	0	5	24
M15B	Determine target type, ALO recommends targets for CAS attack							
	3	7	5	3	0	1	4	25
M15C	Determine the best method to defeat enemy targets							
	2	6	6	5	0	0	4	25
M15C1	Determine constraints imposed by munitions available and ROE							
	2	6	4	5	0	1	5	25
M15C2	Match munitions to type targets							
	3	6	3	5	0	2	4	25
M15D	Identify appropriate JSEAD requirements							
	3	6	4	1	0	2	6	26
M15E	Identify necessary suppression measures and appropriate suppression systems							
	4	5	5	1	0	2	5	26
M15F	Identify the impact of weather on air operations and enemy ADA							
	5	3	1	11	0	1	4	23
M15G	Establish engagement criteria							
	4	5	5	2	0	1	6	25
M15H	Determine methods to identify friendly locations							
	2	8	4	1	1	1	6	25
M15I	On receipt of ATO information, ALO/FSO coordinate immediate 12 hour period							
	0	5	3	2	0	4	8	26
M15I1	Number and type of aircraft/munitions							
	1	5	3	2	0	3	8	26
M15I2	Targets appropriate to aircraft and munitions							
	1	5	3	2	0	3	8	26
M16	Determine ground priority targets (AMTP 71-3, Task 71-3-3005)							
	0	7	5	4	1	1	18	12
M16A	S3/FSO establish target priorities							
	0	5	7	5	1	0	4	26

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

MANUEVER [ALL] PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
M16B	ALO recommends priorities for air attack							
	6	4	3	3	0	2	4	26
M16B1	Identify target type							
	5	5	2	4	0	2	4	26
M16B2	Integrate target with threat to friendly forces, determining risk to air							
	6	5	2	2	2	2	3	26
M17	Develop ground scheme of maneuver (AMTP 71-3, Task 71-3-3001, 3002, 3004,							
	1	4	6	2	0	1	22	12
M17A	Identify forward line of troops (FLOT) and/or battle positions (BPs)							
	1	3	3	4	1	0	6	30
M17B	Identify location of elements forward of the FLOT or operating							
	1	6	4	4	0	0	3	30
M17C	Designate methods of marking friendly troop locations (Glint tape, VS-17							
	0	7	4	2	0	1	4	30
M17D	Designate engagement areas (EAs) (designated areas with no friendly troops)							
	1	4	2	2	1	1	7	30
M17E	Establish maneuver restrictions, such as boundaries, axis of advance, and							
	0	5	4	3	1	0	4	31
M17F	Designate other control measures on troop movement or location, as required							
	1	5	4	4	0	0	3	31
M18	Continuously Analyze Intelligence Developments (AMTP 71-3, Task 71-3-2003,							
	1	2	4	5	0	3	19	14
M18A	Integrate strategic and higher echelon information and intelligence from							
	4	0	3	2	0	2	6	31
M18A1	JSTAR							
	4	0	0	0	0	2	16	26
M18A2	U2/TR1							
	4	0	0	0	0	2	16	26
M18A3	Div/Corps G2							
	3	0	4	3	0	2	8	28
M18B	Integrate information and intelligence from own unit's assets, such as:							
	1	2	3	1	0	2	4	35
M18B1	Reconnaissance elements/scout platoon							
	1	4	5	4	0	2	4	28
M18B2	Ground assets/maneuver units							
	1	4	5	3	0	2	5	28
M18B3	Immediate tactical information observed by aircraft in the area							
	2	5	1	7	0	1	4	28
M18B4	Other available assets							
	1	4	3	2	0	3	6	29
M18C	Disseminate targetable information to the FSE							
	1	4	6	4	0	1	4	28
M19	Initiate Close Air Support (CAS) request (AMTP 71-3, Task 71-3-3--4, 3009;							
	2	2	4	3	0	5	21	11
M19A	Request supports ground scheme of maneuver							
	2	2	4	3	0	4	4	29

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

MANUEVER [ALL] PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
M19B	Request supports fire support plan							
	2	4	2	3	0	4	4	29
M19C	Request conforms to intelligence estimate							
	2	3	3	4	0	4	3	29
M19D	S3, with ALO advice and assistance, identifies preplanned air requirements							
	4	2	1	4	0	4	4	29
M19E	If preplanned, request contains desired air control measures for inclusion							
	4	1	1	2	1	6	5	28
M19F	If immediate CAS, S3/ALO ensures request contains information necessary to							
	3	1	0	3	0	7	5	29
M20	Determine what air is planned (AMTP 71-3, Task 71-3-3004)							
	3	3	9	5	0	2	16	10
M20A	S3 section obtains information from the ALO on planned air sorties in the							
	4	2	8	4	0	0	3	27
M20B	Determine type of aircraft, capabilities and munitions							
	2	6	6	6	0	0	2	26
M20C	Determine when the aircraft will arrive and how long aircraft will remain							
	2	5	7	5	0	1	2	26
M20D	Determine Electronic Warfare (EW) capabilities							
	7	5	2	3	0	3	2	26
M20E	Determine projected sortie allocation							
	3	3	5	8	0	0	3	26
M21	Determine what air is available (AMTP 71-3, Task 71-3-3004, 3009)							
	2	8	3	5	0	3	18	9
M21A	S3 section coordinates with the ALO/TACP to determine the number of air							
	5	4	3	3	0	3	1	29
M21B	Based on the ATO and communications with higher, the TACP identifies all							
	3	4	3	3	0	2	3	30
M21C	S3 section receives information on:							
	3	4	1	3	0	1	1	35
M21C1	Aircraft, capabilities, and munitions							
	6	4	2	3	0	1	2	30
M21C2	When and how long aircraft will be available							
	4	7	2	3	0	1	1	30
M21C3	EW assets and capabilities							
	6	5	0	3	0	2	2	30
M21C4	Air priority of effort in the AO							
	4	6	1	3	0	1	3	30
M21C5	Projected tanker support							
	4	2	0	2	0	4	6	30
M21C6	Projected Airborne Warning and Control System							
	5	2	1	2	0	2	6	30
M21C7	Projected fighter coverage							
	6	2	0	2	0	3	5	30
M21C8	Projected suppression coverage, JSEAD and Weasel							
	5	4	0	2	0	3	4	30

TASK ASSESSMENT DISTRIBUTION, MANUEVER [ALL] PLANNING & PREP
ROTATION: J945, UNIT: All, MISS

Task#	Not Done	Not ADQ	Mark ADQ
M21D	TACP identifies aircraft	4	6
M22	Determine target identification	1	10
M22A	S3/FSO, in conjunction	6	7
M22B	Consider the utility of	4	7
M22C	Identify easy to locate	4	5
M22D	Ensure distinction between	5	4
M23	Develop contingency plan	5	6
M23A	Identify secondary targets	3	4
M23A1	Identify alternate engagement	4	4
M23A2	Prepare for second echelon	2	4
M23B	Identify back-up communication	3	4
M23C	Coordinate for emergency	4	4
M23D	Determine FSO/FO abilities	4	3
M23E	FSO plans alternate means	5	2
M24	Organize for combat (P&T)	1	2
M24A	Establish chain of command	1	1
M24B	Identify locations provided	0	2
M24C	Determine position of CAS	1	2
M24D	Identify CAS final control	1	3
M25	Confirm aircraft allocation	2	4
M25A	Information on type aircraft	2	4
M26	Integrate CAS with Brig	7	12
M26A	CAS plan conforms with	11	9

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ALL LEVELS

TRAINING DAY: All, O/C: All

Task#	Not OBS	Not APP	Not Assess
M21D	(2 hours out) and coordinates with	0	3
M22	cedures (AMTP 71-3, Task 71-3-9004; FM	0	3
M22A	TACP, determine target marking	0	2
M22B	marking methods such as laser, smoke,	0	3
M22C	cedures	0	5
M22D	marking and method for marking friendly	0	6
M23	3, Task 71-3-3009, 9003, 9004; FM 6-20)	0	5
M23A		0	6
M23A1		0	5
M23A2	nt	0	6
M23B		0	6
M23C	CAS in event of ALO/ETAC KIA	0	5
M23D	CAS in emergency	0	7
M23E	CAS targets	0	6
M24	71-3-3001, 3002)	0	2
M24A		0	1
M24B	ected communication with air and ground	0	2
M24C	officer within the command group for	0	3
M24D		0	6
M25	1-3, Task 71-3-3004, 3009)	0	2
M25A	al times, munitions, and number of	0	2
M26	atrix (AMTP 71-3, Task 71-3-3004, 3009,	0	1
M26A	port Template	0	0

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY
MANUEVER [ALL] PLANNING & PREPARATION TASKS, ALL LEVELS
ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
M26B	ALO and CAS are integrated into fire support rehearsals							
	3	6	0	0	0	1	2	36
M26C	CAS is synchronized with scheme of maneuver							
	5	9	0	1	0	1	5	27
M26C1	Timing							
	5	9	1	1	0	0	6	26
M26C2	Command or event driven sequence							
	6	9	0	1	0	0	6	26
M26D	CAS is synchronized with fire support plan							
	5	10	1	0	0	1	5	26
M26D1	Timing							
	5	10	0	0	0	2	5	26
M26D2	Command or event driven sequence							
	6	9	0	0	0	1	5	27
M26D3	Targets							
	5	9	2	0	0	1	4	27
M26E	CAS is synchronized with Army Aviation							
	7	7	0	0	0	2	7	25
M26E1	Timing							
	7	6	1	0	0	2	5	25
M26E2	Battle positions							
	8	6	0	0	0	1	5	26
M26E3	Engagement areas							
	7	7	0	0	0	1	5	26
M26F	Plan for continuous CAS missions							
	8	7	0	0	0	0	6	25
M27	Fire Support Element integrates CAS (AMTP 71-3, Task 71-3-3004, 3009, 9002;							
	5	7	3	0	0	1	21	11
M27A	CAS plan is incorporated into the indirect fire plan and included in the							
	6	5	4	0	0	0	3	30
M27A1	Sequence of attack							
	8	5	2	0	0	0	3	30
M27A2	Timing							
	7	6	2	0	0	0	3	30
M27A3	Engagement areas							
	6	5	2	2	0	0	3	30
M27A4	Targets							
	6	5	3	1	0	0	3	30
M27B	Masking of indirect fires is minimized							
	8	2	3	0	0	1	4	30
M27C	CAS target list is appropriate for air engagement							
	7	3	2	2	0	1	3	30
M27D	Identify coordination considerations with Army Aviation							
	8	3	2	0	0	3	2	30
M27E	ALO and CAS are integrated into fire support rehearsals							
	3	3	1	1	0	0	0	38

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

MANUEVER [ALL] PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
M28	Confirm airspace control measures (AMTP 71-3, Task 71-3-3012, 3013, 6002,							
	7	6	6	3	1	1	12	12
M28A	Review airspace control order (ACO) and identify any changes to initial							
	8	2	5	6	1	1	2	23
M28B	Identify local airspace restrictions for areas, altitude, times, and routes							
	4	4	6	3	1	0	2	28
M28C	Specifically identify ROZs for army aviation operations (FARPs, BPs, etc.)							
	5	0	5	4	1	2	3	28
M28D	Monitor status of airfields and specifically identify ROZs for air routes,							
	5	0	4	3	1	3	4	28
M28E	Specifically identify no fire areas due to ROE or friendly ground force							
	3	0	7	5	0	3	2	28
M28F	Confirm ADA restricted operations areas (ROAs), weapons free zones, and							
	7	3	7	2	0	3	2	24
M29	Confirm communications (AMTP 71-3, Task 71-3-1102)							
	5	1	4	8	0	4	14	12
M29A	Confirm frequencies from ALO/ATO and distribution of frequencies to							
	4	2	4	7	0	4	2	25
M29B	Confirm distribution of proper authentication tables [AKAC 1553] to							
	4	0	4	9	0	4	2	25
M29C	Conduct communications check and confirm communications capability with air							
	4	1	4	7	0	5	2	25
M30	Deconflict airspace (AMTP 71-3, Task 71-3-3012, 3013, 6002, 7001, 9002; FM							
	4	4	6	0	1	3	16	14
M30A	ACO provides for deconfliction of overall airspace into brigade AO							
	0	2	4	4	2	2	4	30
M30B	Within brigade AO, brigade plan minimizes potential fratricide situations							
	0	6	4	3	0	2	4	29
M30C	Brigade plan minimizes the masking of fires for all elements							
	1	5	2	3	0	2	4	31
M30D	Plan provides for reaction to aircraft ingressing and egressing the AO							
	1	5	2	0	2	3	4	31
M30E	Confirm that all the following assets are operating in concert:							
	3	4	3	0	0	2	4	32
M30E1	CAS							
	2	4	3	0	0	2	4	33
M30E2	Helicopters (attack, lift, and scout)							
	2	4	2	1	1	1	4	33
M30E3	Indirect fires (artillery, mortars, and naval gunfire)							
	2	4	2	1	1	1	4	33
M30E4	ADA							
	5	5	3	1	1	1	4	28
M30E5	UAV							
	0	2	1	0	0	4	8	33
M30F	FSO overlays indirect fire asset data (locations, gun target lines, maximum							
	7	4	1	0	0	1	5	30

TASK ASSESSMENT DISTRIBUTION, ROTATION SUMMARY

MANUEVER [ALL] PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Not Done	Not ADQ	Marg ADQ	ADQ	SUP	Not OBS	Not APP	Not Assess
M30G	Monitor planned and outgoing fires							
	0	5	3	3	0	2	4	31

APPENDIX G

OC Task Comments from Field Tryout

This appendix is a rollup of all training cadre written comments during the JRTC field tryout. Tasks are listed sequentially by number, name, and reference. Under each task is the ground mission within which the task was conducted and the associated comments. The OC or training cadre call sign (B05, Blue 2, etc.) is listed beside each comment. The comments are unedited and appear as they were transcribed into the database. Ground missions are identified as Forced Entry, Offense, and Defense.

TASK REMARKS COMPARISON, ROTATION SUMMARY

AFAC PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Task Description	Mission	O/C	Remarks
A01REM	Analyze the tactical situation (MCM 3-3, Vol VIII)	DEFENSE	BLUE2	THIS WOULD NOT BE POSSIBLE WITHOUT A GLO. I CAN NOT OVERSTRESS HOW IMPORTANT IT IS TO HAVE AL GLO IN THE SQUADRON.
A02REM	Determine the friendly situation (MCM 3-3, Vol VIII)	DEFENSE	BLUE2	A.2) SCOUT POSITIONS UNKNOWN. A.3) NEED MAX ORD AND LINE OF FIRE IF ARMY IS RELUCTANT TO PASS COORDINATES OF ARTY. A.7) ACA LISTING IS VERY GOOD.
A05REM	Determine the EW threat (MCM 3-3, Vol VIII)	DEFENSE	BLUE2	WE DO HAVE EXTRA FREQUENCY TO USE IN CAS OF JAMMING, BUT -- WE ARE NOT ALLOWED TO USE 'HAVEQUICK' UHF RADIOS.
A07REM	Determine what air is planned (MCM 3-3, Vol VIII)	DEFENSE	BLUE2	F. THIS MAY BE ABOVE THE AFAC'S PAY GRAD. HIS IS GIVEN A TASKING JUST LIKE EVERYONE ELSE.
A08REM	Determine what air is available (MCM 3-3, Vol VIII)	DEFENSE	BLUE2	C. USUALLY NOT SURE OF THIS UNTIL WE TALK WITH THE GFAC. THERE DOES NOT APPEAR TO BE A COORDINATED EFFORT. I. AFAC HAS TO CONVINCE THE GFAC TO WORK SEAD.
A11REM	Determine air tactics to be used (MCM 3-3, Vol VIII)	DEFENSE	BLUE2	A.1), 2) BECAUSE OF SA-8, THREAT CHANGES QUICKLY.
A12REM	Coordinate with airspace management agencies (MCM 3-3, Vol VIII; TACM 3-1 V8)	DEFENSE	BLUE2	D. SA-7/14 ARE EVERYWHERE. NEVER SURE IF SA-8 IS THERE UNTIL IT LOCKS ON TO YOU. F. TACPS GENERALLY DO NOT KEEP WOLFMAN INFORMED TO THE EXTENT THE SHOULD. PART OF THE IS WOLFMAN'S FAULT. WE DO NOT INSIST ON THE REPORTS.
A14REM	Confirm communications (MCM 3-3, Vol VIII)	FORCED ENTRY	H01	ANIDOTE 21B WAS NOT ABLE TO AUTHENTICATE.
		FORCED ENTRY	H01	BOAR 21/22 CHECKED IN AT 170117L. SENT TO ANTIDOTE 21. BOAR HAD TROUBLE MAKING CONTACT WITH ANTIDOTE SINCE BOAR WAS WORKING ON THE D-1 TADS. WOLFMAN SENT BOAR THE CORRECT FREQ IN THE CLEAR. ANTIDOTE 21 HAD NOTHING FOR THEM, WENT TO ANTIDOTE 20/22. DI
		DEFENSE	H01	BOAR 11/12/13 CHECKED IN AT 212000L. WORKED WITH ANIDOTE 21A AND SPECTAR (AIRBORN HELO). BOAR 11 FLIGHT CHECKED OUT AT 212114L. WAS UNABLE TO HEAR THE BOAR FLIGHT AT THIS STATION. NO DATA WAS COLLECTED DUE TO COMMO PROBLEM.
		DEFENSE	H01	SWINE 26 CHECKED IN AT 220635L.
		DEFENSE	H01	SWINE 26 WORKED WITH HARDROCK 60 AND ANTIDOTE 21.
		DEFENSE	H01	BOAR 11/12 CHECKED IN AT 222053L. SENT TO ANTIDOTE 20.
		OFFENSE	H01	PUMA 11 AFAC CHECKED IN AT 251025L. SENT TO ANTIDOTE 22. WORKING SWINE 21/22.

TASK REMARKS COMPARISON, ROTATION SUMMARY

AFAC PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Task Description	Mission	O/C	Remarks
	OFFENSE		H01	PUMA 21 GOT UPDATE FROM PUMA 11. DIRECTED DROP FROM SWINE 11/12 ON DO #7. WENT TO RL AND BACK TO ANTIDOTE TO DO VR. DIDN'T FIND ANYTHING ELSE.
	OFFENSE		H01	PUMA 14 CHECKED IN. SENT TO ANTIDOTE 21 AND ANTIDOTE 20. WORKED SWINE 23/24 FLIGHT.
	OFFENSE		H01	PUMA 11 AFAC CHECKED IN, SENT TO ANTIDOTE 21. WX A FACTOR 1000 OVER 6 MILES. A-20B CALLED OVER HF WITH A FIRE MISSION. FRIENDLY NOT A FACTOR. PUMA 11 WILL WORK SWINE 21/22. PUMA 11 AND SWINE 21 UNABLE TO GET UNDER WX RTB AT 0844L.
	OFFENSE		H01	PUMA 11 CHECKED IN AT 0615L. SENT TO ANTIDOTE 21B, WHO IS FORWARD ON A PORTABLE.
	OFFENSE		H01	PUMA 12 CHECKED IN AT 0640L. WORKING WITH P 11. P 12 TOOK OVER WHEN P11 WAS KILLED AT APPROX 0646L. P 12 SHOT AND TAKEN OUT BY SA-8.
A15REM	Coordinate with TACP (TAC Pam 50-22; TAC Pam 50-20)			
	FORCED ENTRY		H01	BOAR 11/12 CHECKED IN WITH 2100L WITH ANNIDOTE 20A. BOAR 11/12 CHECKED OUT 2200L. FLIGHT DID VR WITH ANIDOTE BUT DID NOT FIND ANY TARGETS.
	OFFENSE		H01	TACP DIO NOT KNOW ANYTHING ABOUT SA-8.
	OFFENSE		H01	PUMA 12 RECEIVED UPDATE FROM PUMA 11.
	OFFENSE		H01	PUMA HAD AR OVERLAY, KNEW PHASE LINE. PUMA DID GOOD JOB OF UPDATING THREAT. NO FIRE AREA 095398/098374. TARGETS AROUND OBJ BEAR.
	OFFENSE		H01	ANTIDOTE 21 GAVE PUMA 11 6 GRIDS. FRIENDLY NO FACTOR.
	OFFENSE		H01	UNABLE TO HEAR ANTIDOTE 21A AT MY LOCATION. PUMA REPORTED THAT 21A VERY SLOW WITH INFO. NO REPORTED THREATS BY 21A. P 11 SHOT BY SA-8. P 11 REPORTS 21A VERY SLOW TO GIVE GUN TGT LINE AND MARK ORD.
A16REM	Analyze Threat Situation (MCM 3-3, Vol VIII)			
	FORCED ENTRY		H01	NO TARGETS FOUND.
	OFFENSE		H01	AFAC TOLD TACP THE SA-8 WAS PRIMARY TARGET. AFTER AFAC WAS TAKEN OUT, WOULD NOT COME BACK WITHOUT TTR SUPPORT. IDENTIFIED THE SA-8 AND DROPPED 6 MK-82S. KILLED SA-8.
	OFFENSE		H01	WX CLEAR AND A MILLION FLIGHT BEFORE TOOK OUT GRETTA (SA-8). SA-8 GRID 119363.
	OFFENSE		H01	SEEMED TO TAKE A LONG TIME BEFORE SA-8 WAS TAKEN OUT.
A17REM	Determine ground scheme of maneuver (TAC Pam 50-22)			
	FORCED ENTRY		H01	101 AB IS NOT IN THE AO AT THIS TIME SO A17F WAS NO A FACTOR.
	OFFENSE		H01	AFAC AND TACP TALKED OVER WHAT AFAC SAW.
	OFFENSE		H01	TACP GAVE PUMA TGT OF ENG VEHICLES GRID 70536.
	OFFENSE		H01	HAD ARMY OVERALY, KNEW PHASE LINES ETC. AFAC (PUMA) PASSED OBSTACLES TO TACP.

TASK REMARKS COMPARISON, ROTATION SUMMARY
 AFAC PLANNING & PREPARATION TASKS, ALL LEVELS
 ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Task Description	Mission	O/C	Remarks
	OFFENSE		H01	TAQCP REPORTED BY AFAC AS VERY SLOW.
A18REM	Analyze targets (MCM 3-3, Vol VIII)			
	DEFENSE		H01	SWINE 26 WORKED WITH HARDROCK AND ANTIDOTE. ALL TARGETS WERE VISUAL RECCE. NO TGT WERE DROPPED ON.
	OFFENSE		H01	TGT ENGINEERING VEHICLES. DROPPED BOMBS 200 M ESE OF DO #7.
	OFFENSE		H01	TARGET OBJ BEAR. 150 ROUNDS OF 30 MM ON 092376.
	OFFENSE		H01	9 L ON SA-8 GIVEN BY A20, ALSO USED SEAD.
A19REM	Establish CAS target priorities (FM 6-20)			
	OFFENSE		H01	NO CAS, ONLY AI.
A20REM	Confirm JSEAD plan (MCM 3-3, Vol VIII)			
	OFFENSE		H01	PUMA 11 ENGAGED BY GRETTA AT 1055L. REMOVED BY T01 AT 1057 FOR MINUTES. GRETTA SAID NO FLARES OR EVASIVE ACTION. GRETTA IDENTIFIED AND TAKEN OUT BY A-10S.
	OFFENSE		H01	PUMA 11 PASSED TO P-12 UPDATE ABOUT SA-8. P-12 ASKED ABOUT FS TO ANTIDOTE.
	OFFENSE		H01	TACP CALLED FOR JSEAD WITH AFAC/FTRS.
	OFFENSE		H01	P 11 REQUESTS SEAD ON SA-8 TO TACP.
	OFFENSE		H01	REQUESTED JSEAD. BUT AVN TOOK OUT SA-8.
A21REM	Recieve Army Aviation update (TAC Pam 50-22)			
	FORCED ENTRY		H01	BOAR 11/12 TALKED TO ANIDOTE WHO WAS IN A HELO SO A MODIFIED AVN UPDATE WAS PASSED HOWEVER THE SECOND AVN UNIT WAS NOT ABLE TO AUTHENICATE.
	OFFENSE		H01	NO AVN INFO PASSED.
	OFFENSE		H01	NO AVN.
	OFFENSE		H01	NO AVN INFO PASSED EVEN THOUGH THERE WAS A LOT OF AVN FLYING. 0721 BEARCAT GAVE SA-8 GRID 118360.
	OFFENSE		H01	P 12 REQUESTED AVN FREQ FOR JAAT ON SA-8 TO A-20. WENT TO AVN FREQ, BUT NO CONTACT. SWINE 21 NOT CHECKED OUT FOR JAAT.
A22REM	Confirm aircraft allocation (MCM 3-3, Vol VIII;TACM 55-46)			
	FORCED ENTRY		H01	NOT SURE WHY THIS TASK IS IN THE AFAC/CAS CHECKLIST.
A23REM	Deconflict airspace (TAC Pam 50-28;FM 100-103)			
	FORCED ENTRY		H01	NO AIRSPACE TO DECONFLICT.
	DEFENSE		H01	WHILE BOAR 11/12 ON STATION COUGAR 32/33/34 ARRIVED. DID NOT WORK TOGETHER.
	OFFENSE		H01	PUMA 11 PASSED ON ALL INFO TO PUMA.
	OFFENSE		H01	PUMA 11 DECONFLICTED AIR SPACE WITH PUMA 21.
	OFFENSE		H01	PUMA PASSED 3 NO FIRE AREAS TO SWINE.
A26REM	Match weapon with target (MCM 3-3, Vol VIII)			
	OFFENSE		H01	ENGINEER VEHICLES AND MK-82S.
	OFFENSE		H01	MK-82, 50 MM.
	OFFENSE		H01	NO WPN EXPENDED WHILE P 11ON STATION.
	OFFENSE		H01	S 21 4 MK 82 ON 115367 AT 0813L TENTS,. S 22 4 MK 82 ON 115367.

TASK REMARKS COMPARISON, ROTATION SUMMARY

AFAC PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Task Description		
	Mission	O/C	Remarks

A27REM	Confirm target marking procedures (TAC Pam 50-28)		
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	FORCED ENTRY	H01	NO TARGETS FOUND.
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	OFFENSE	H01	NO CAS, ONLY AI IN TGT AREA.
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	OFFENSE	H01	NO TGT DROPPED ON.
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TASK REMARKS COMPARISON, ROTATION SUMMARY

TACP PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task# Task Description

Mission

O/C

Remarks

G05REM Analyze the enemy situation (MCM 3-3, Vol VIII)
 FORCED ENTRY T07 A., S2 BLIND AS TO ENEMY DISPOSITION. NOT ABLE TO PROVIDE
 ALO WITH DISPOSITION OF ENEMY.

G06REM Identify air control measures (MCM 3-3, Vol VIII; ATP40; FM 100-103)
 FORCED ENTRY T07 NOMINATED LLTRS TO DIVISION.

G08REM Determine communication requirements (MCM 3-3, Vol VIII; TAC Pam 50-20)
 FORCED ENTRY T06 CHATTERMARK TO PREPLANNED FREQ WITH TACPS RECEIVED
 INADVERTENT JAMMING.

G09REM Establish communications MCM 3-3, Vol VIII; TAC Pam 50-20)
 FORCED ENTRY T06 C. NO COMMO WITH ASOC.
 FORCED ENTRY T06 NO COMMO WITH ASOC.
 AUTHENTICATION TABLES NOT PROVIDED TO ARMY AVN.

G10REM Coordinate Air Defense Artillery control procedures (TAC Pam 50-20)
 FORCED ENTRY T06 C. D. E. BDE STAFF NOT INITIALLY INFORMED CAS WAS ON
 STATION.

G14REM Analyze fire support plan (MCM 3-3, Vol VIII; FM 6-20)
 FORCED ENTRY T06 MAX ORDS NOT COMPUTED.

G22REM Initiate Close Air Support (CAS) request (FM 90-21)
 FORCED ENTRY T06 D. PREPLANS NOT SENT - ALO DID NOT INSURE FSO TRANSMITTED.

G29REM Confirm aircraft allocation (MCM 3-3, Vol VIII; TACM 55-46)
 FORCED ENTRY T06 BDE ALO ATTENDED AIR PLANNING CONFERENCE.

G31REM Confirm plan with Fire Support Element (FM 6-20)
 FORCED ENTRY T06 B. MAX ORDINATE OF ARTILLERY FIRES WERE NOT DETERMINED.
 FORCED ENTRY T06 G31. S2 DID NOT DEVELOP.
 DEFENSE T07 C. ARMY HAD LIMITED TARGETS - EXPECTED VIS RECCE TO
 IDENTIFY TARGETS.

G33REM Confirm communications (MCM 3-3, Vol VIII; TAC Pam 50-20)
 FORCED ENTRY T06 C. HAVE QUICK OPS PROHIBITED DUE TO COMM INTERFERENCE.
 FORCED ENTRY T06 B. ARMY DID NOT HAVE AUTH CARDS.
 DEFENSE T07 B. THIS OUGHT TO BE 1655B.
 C.3) THERE WAS LITTLE INTEGRATION OF FREQUENCIES BETWEEN
 AIR AND HELOS.

G34REM Deconflict airspace (TAC Pam 50-28; FM 100-103)
 FORCED ENTRY T06 MAX ORD NOT PLANNED.

TASK REMARKS COMPARISON, ROTATION SUMMARY

TACP PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Task Description	Mission	O/C	Remarks
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G05REM	Analyze the enemy situation (MCM 3-3, Vol VIII)			
	FORCED ENTRY	T07		A., S2 BLIND AS TO ENEMY DISPOSITION. NOT ABLE TO PROVIDE ALO WITH DISPOSITION OF ENEMY.
G06REM	Identify air control measures (MCM 3-3, Vol VIII; ATP40; FM 100-103)			
	FORCED ENTRY	T07		NOMINATED LLTRS TO DIVISION.
G08REM	Determine communication requirements (MCM 3-3, Vol VIII; TAC Pam 50-20)			
	FORCED ENTRY	T06		CHATTERMARK TO PREPLANNED FREQ WITH TACPS RECEIVED INADVERTENT JAMMING.
G09REM	Establish communications (MCM 3-3, Vol VIII; TAC Pam 50-20)			
	FORCED ENTRY	T06		C. NO COMMO WITH ASOC.
	FORCED ENTRY	T06		NO COMMO WITH ASOC.
				AUTHENTICATION TABLES NOT PROVIDED TO ARMY AVN.
G10REM	Coordinate Air Defense Artillery control procedures (TAC Pam 50-20)			
	FORCED ENTRY	T06		C. D. E. BDE STAFF NOT INITIALLY INFORMED CAS WAS ON STATION.
G14REM	Analyze fire support plan (MCM 3-3, Vol VIII; FM 6-20)			
	FORCED ENTRY	T06		MAX ORDS NOT COMPUTED.
G22REM	Initiate Close Air Support (CAS) request (FM 90-21)			
	FORCED ENTRY	T06		D. PREPLANS NOT SENT - ALO DID NOT INSURE FSO TRANSMITTED.
G29REM	Confirm aircraft allocation (MCM 3-3, Vol VIII; TACM 55-46)			
	FORCED ENTRY	T06		BDE ALO ATTENDED AIR PLANNING CONFERENCE.
G31REM	Confirm plan with Fire Support Element (FM 6-20)			
	FORCED ENTRY	T06		B. MAX ORDINATE OF ARTILLERY FIRES WERE NOT DETERMINED.
	FORCED ENTRY	T06		G31. S2 DID NOT DEVELOP.
	DEFENSE	T07		C. ARMY HAD LIMITED TARGETS - EXPECTED VIS RECCE TO IDENTIFY TARGETS.
G33REM	Confirm communications (MCM 3-3, Vol VIII; TAC Pam 50-20)			
	FORCED ENTRY	T06		C. HAVE QUICK OPS PROHIBITED DUE TO COMM INTERFERENCE.
	FORCED ENTRY	T06		B. ARMY DID NOT HAVE AUTH CARDS.
	DEFENSE	T07		B. THIS OUGHT TO BE 1655B.
				C.3) THERE WAS LITTLE INTEGRATION OF FREQUENCIES BETWEEN AIR AND HELOS.
G34REM	Deconflict airspace (TAC Pam 50-28; FM 100-103)			
	FORCED ENTRY	T06		MAX ORD NOT PLANNED.

TASK REMARKS COMPARISON, ROTATION SUMMARY

PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Task Description	O/C	Remarks
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GA36REM Establish communications with CAS (TAC Pam 50-28;TAC Pam 50-20)

FORCED ENTRY	T06	A.1) ONE E+ AIRCRAFT LOST AUTHENTICATION CARD. B.3) NO CONTACT WITH WOLFMAN (ASOC). C.2) NO CONTACT WITH TACP DESPITE PRIOR COORDINATION FOR JAAT. C.3) CHECKED IN WITH FAC BUT THEN LEFT FREQ.
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FORCED ENTRY	T01	WEATHER CANCELLED D+1: NO FLIGHTS
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DEFENSE	T01	WEATHER CANCEL: NO FLIGHTS.
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OFFENSE	T01	WEATHER CANCEL: NO FLIGHTS.
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OFFENSE	T01	WEATHER CANCEL: NO FLIGHTS.
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OFFENSE	T01	WEATHER CANCEL: NO FLIGHTS
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GA45REM Confirm target locations with aircraft (TAC Pam 50-22;MCM 3-3, Vol VIII)

FORCED ENTRY	T06	B.3) USE OF IR MARKING EXCELLENT.
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GA46REM Initiate JSEAD effort (MCM 3-3, Vol VIII)

FORCED ENTRY	T06	ALTHOUGH PREPLANNED, JAAT DID NOT TAKE PLACE DUE TO ARMY AVIATION ASSETS OFF PREPLANNED FREQUENCY.
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GA47REM Confirm attack approval from ground commander (TAC Pam 50-28)

FORCED ENTRY	T06	NO MUNITIONS EXPENDED OR ATTACKS INITIATED -- GROUND CDR INITIALLY UNAWARE THAT NIGHT CAS WAS OVERHEAD.
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GA49REM Confirm target approach (MCM 3-3, Vol VIII)

FORCED ENTRY	T06	TACP EXECUTED PREPLANNED AIRSPACE.
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GA51REM Continuously update aircraft (TAC Pam 50-28;TAC Pam 50-20)

FORCED ENTRY	T06	TACP WAS LARGELY IGNORANT OF GROUND FORCE OR ENEMY LOCATION, BUT TOLD CAS THAT THE AIR ASSAULT PLAN WAS OFF SCHEDULE DUE TO ENEMY RESISTANCE.
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OFFENSE	T06	NEVER HEARD GROUND SITUATION BRIEFED TO AFAC OR CAS.
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GA52REM Request pilot observations (MCM 3-3, Vol VIII)

FORCED ENTRY	T06	NIGHT CAS A-10S WERE USED IN VISUAL RECCE MODE BUT WERE UNABLE TO LOCATE ENEMY.
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TASK REMARKS COMPARISON, ROTATION SUMMARY

MANUEVER [ALL] PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task# Task Description
Mission O/C

Remarks

M01REM	Conduct mission analysis (AMTP 71-3, Task 71-3-3001; FM 101-5)		
	OFFENSE	Y03B	ALO NOT PRESENT DURING MISSION ANALYSIS.
	FORCED ENTRY	I30	LZ selection was poor and not verified during IPB process.
	FORCED ENTRY	B05	TAC ROE WAS IDENTIFIED BUT NOT SPECIFICALLY DESIGNATED FOR CAS.
	OFFENSE	B05	XO AND S3 IN THEIR MISSION ANALYSIS DID NOT SPECIFY ANY SPECIFIC ROE THAT APPLIED TO CAS/AIR OPERATIONS. I BELIEVE THE FSO ADDRESSED THIS WHEN HE SPECIFIED TASKS AND CONSTRAINTS.
	OFFENSE	F20	DONE BY STAFF COLLECTIVELY.
	FORCED ENTRY	F30	ALO WAS AT THE ISB, BUT I DID NOT SEE HIM PARTICIPATE IN MISSION ANALYSIS AT ANY TIME WITH THE GROUND MANEUVER STAFF.
	FORCED ENTRY	B30	PLT LDR CONDUCTS A MISSION ANALYSIS FOR AIR DEFENSE. HE HAS NO PORTION FOR CAS.
	FORCED ENTRY	B63	FOR COMMO.
	OFFENSE	B30	N/A FOR ADA LT.
	FORCED ENTRY	Y03B	MISSION ANALYSIS WAS VERY WEAK. STAFF DID NOT CONDUCT GOOD ESTIMATES. ALO DID NOT PLAY BIG ROLE IN PLANNING PROCESS...NOT INTEGRATED WITH FSO IN TARGETING PROCESS.
	FORCED ENTRY	I20	SPECIFIC TALK ABOUT CAS WAS NOT OBSERVED. ALO WAS NOT SEEN IN OR AROUND PLANNING OPERATIONS.
	DEFENSE	Y03B	ALO NOT PRESENT DURING MISSION ANALYSIS.
M02REM	Determine the commander's intent (AMTP 71-3, Task 71-3-9001; FM 101-5)		
	FORCED ENTRY	B05	- HIGHER CDR'S INTENT FOR FIRES WAS ANALYZED. - UNIT CDR'S INTENT FOR FIRES WAS DEVELOPED, BUT NO SPECIFIC INTENT FOR CAS IDENTIFIED.
	DEFENSE	F20	CDR'S GUIDANCE FOR FIRE SUPPORT DID NOT ADDRESS CAS.
	OFFENSE	B05	THERE WAS NOT A SPECIFIC CDR'S INTENT FOR CAS. CAS WAS BROUGHT IN UNDER THE FOLD OF "FIRES".
	OFFENSE	F20	DON'T BELIEVE WE RELATED SPECIFIC CAS SORTIES TO WHAT WE THOUGHT THE CDR WANTED TO ACCOMPLISH.
	FORCED ENTRY	F30	CAS WAS IDENTIFIED IN THE FIRE SUPPORT ANNEX ALONG WITH ATTK AVN TO DESTROY HIGH PAYOFF TGTS.
	FORCED ENTRY	B30	NOT REQUIRED OF ADA PLT LDR.
	FORCED ENTRY	B63	FOR COMMO.
	DEFENSE	B30	PL DOES HIS OWN.
	DEFENSE	B63	B. CDR'S INTENT FOR CAS DEVELOPED VERBALLY - ALO DID NOT GET COPY OF ORDER.
	OFFENSE	B30	N/A FOR ADA. HE DOES THIS FOR ADA, NOT CAS.
	FORCED ENTRY	Y03B	CAS NOT ADDRESSED IN CDR'S INTENT OR IN FS ANNEX EXCEPT FOR NUMBER OF SORTIES AND WHICH TARGETS THEY WOULD LOOK FOR.
	DEFENSE	Y03B	ALO NOT PRESENT DURING PLANNING PROCESS.
	OFFENSE	Y03B	ALO NOT PRESENT DURING MISSION ANALYSIS AND CDR'S PLANNING GUIDANCE.
M03REM	S2 prepares Intelligence Estimate (AMTP 71-3, Task 71-3-2001; FM 34-1)		
	OFFENSE	Y03B	ALO NOT INVOLVED IN IPB PROCESS AT ALL.

TASK REMARKS COMPARISON, ROTATION SUMMARY

MANUEVER [ALL] PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task# Task Description
Mission O/C

Remarks

	OFFENSE	I20	ALO AND S2 DID NOT HAVE ANY INTERACTION.
	FORCED ENTRY	I30	LZ selection was poor and unconfirmed.
	FORCED ENTRY	B05	NOT A SPECIFIC MANUEVER TASK - S3 ASSISTED ALONG WITH OTHER BOS REPS IN ASSISTING THE S2 ANALYZE THE AREA AND THE ENEMY.
	OFFENSE	B05	NOT A S3 TASK, THIS IS S2 SPECIFIC.
	OFFENSE	F20	S2
	FORCED ENTRY	F30	SEE INTEL BOOK.
	FORCED ENTRY	B30	NOT REQUIRED OF ADA PLT LDR WHEN APPLIED TO CAS PLANNING.
	DEFENSE	I10	TALKED TO BALO ABOUT TARGETS, BUT DID NOT RECOGNIZE HOW USEFUL PILOT INFORMATION COULD BE.
	OFFENSE	B30	N/A FOR ADA.
	FORCED ENTRY	Y03B	AIRCRAFT NOT INTEGRATED INTO S2'S COLLECTION AND R&S PLAN - DID NOT QUERY BDE S2 FOR INFO ON WHAT AIRCRAFT HAD SEEN.
	FORCED ENTRY	I20	B. THIS UNIT FOCUSES PRIMARILY ON ARMY AIR. CAS INTEGRATION WAS NO OBSERVED.
	DEFENSE	I20	A. IPB WAS NOT CONTINUOUS PROCESS. B. ALO AND S2 DID NOT WORK/COMMUNICATE WITH EACH OTHER VERY MUCH.
M04REM	S2 analyze the terrain	(AMTP 71-3, Task 71-3-2001, 2003; FM 34-1)	
	FORCED ENTRY	B05	NOT A SPECIFIC MANUEVER TASK - S3 ASSISTED S2 OR BROUGHT OUT COMMENTS AS S2 BRIEFED.
	DEFENSE	I30	DID NOT IDENTIFY WEAKNESSES IN THE FRIENDLY SCHEME OF MANUEVER. POSITIONING DID NOT MAKE GOOD USE OF TERRAIN TO DELAY AND DISRUPT THE ENEMY MAIN EFFORT.
	DEFENSE	B20	B. DONE BY THE ADO. IT WAS ADEQUATE, HOWEVER, ADO FAILED TO UPDATE AIR AVENUES BASED UPON THE THREAT ACTIVITY.
	OFFENSE	B05	THIS IS S2 SPECIFIC - S3 DID ASSIST THE S2.
	OFFENSE	F20	S2. ALO NEVER TALKS TO S2.
	OFFENSE	I30	DID NOT CONDUCT PATTERN ANALYSIS OF ENEMY AIR OPERATIONS TO CONTAIN AIRE AVENUE OF APPROACH.
	OFFENSE	B20	B. AIR IPB PERFORMED BY ADO.
	FORCED ENTRY	B30	AIR DEFENSE OFFICER DOES DO AN AIR IPB TO IDENTIFY ENEMY AIR AVENUES OF APPROACH.
	DEFENSE	B30	S2 FUNCTION, NOT AD PLT LDR.
	OFFENSE	B30	N/A FOR ADA. HE DOES NOT DO GROUND IPB.
	FORCED ENTRY	I20	B. S2 AND ADA WORKED TOGETHER ON THIS. ALO WAS NOT OBSERVED IN THIS PROCESS.
	DEFENSE	I20	B. S2 AND ALO ONCE AGAIN WERE WORKING TOGETHER VERY INFREQUENTLY. THE S2 WORKED WITH ADA ALOT MORE CLOSELY.
	OFFENSE	I20	A. S2 DEVELOPED COUNTER ATTACK AA ON HIS OWN. NO INFO WAS PROVIDED FROM BDE. B. BICC DID VERY GOOD JOB ON TRACKING WX AND ANALYZING FUTURE WX AGAINST FUTURE OPERATIONS.
M05REM	S2 analyze the enemy situation	(AMTP 71-3, Task 71-3-2001, 2003, 2005; FM 34-1)	
	OFFENSE	Y03B	S2'S ANALYSIS OF EW SITUATION INCOMPLETE. DID NOT USE ALL AVAILABLE COLLECTION ASSETS TO

TASK REMARKS COMPARISON, ROTATION SUMMARY

MANUEVER [ALL] PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Task Description	Mission	O/C	Remarks
				CONFIRM/DENY TEMPLATES.
	OFFENSE		I20	S3/FSO/S2 (TARGETING TRIAD) CONTINUES TO BE DISJOINTED AND NOT SYNCHRONIZED.
	FORCED ENTRY		B05	NOT A MANUEVER SPECIFIC TASK - S3 ASKED QUESTIONS AND POINTED AREAS OUT AS S2 BRIEFED.
	DEFENSE		I30	DID NOT IDENTIFY AND TRACK THE ENEMY MAIN EFFORT.
	OFFENSE		B05	S2 SPECIFIC - DURING TARGETING PROCESS WHICH RARELY OCCURED, THE TARGETING INFO WAS "PULLED" OUT OF THE S2.
	OFFENSE		I30	70% OF THE LOCATIONS OF ENEMY FORCE WERE NOT CONFIRMED. ADA THREATS WERE NOT TEMPLATED IN GREAT DETAIL. OVER LOOKED THE POSSIBILITY OF A SPOILING ATTACK. TARGETING EFFORT WAS SLOW. NO SENSE OF URGENCY.
	OFFENSE		B30	N/A FOR ADA PLT LDR.
	FORCED ENTRY		Y03B	NO TARGETING DONE AT BN TF LEVEL.
				FAIRLY GOOD ANALYSIS ON ENEMY ADA CAPABILITIES/COAS BASED ON THEIR IMPACT ON FRIENDLY AIR ASLT OPS...NOT CAS OPS.
	FORCED ENTRY		I20	B. - D. S2/S3/ADA WORKED TOGETHER WITH THIS. ALO WAS NOT SEEN. PRIMARY WORK WAS DONE BY ADA.
				E. WAS DONE BUT SPORADICALLY AND NOT IN DETAIL.
M06REM	S3/FSO develop/provide friendly situation			(AMTP 71-3, Task 71-3-3002, 3003, 3007,
	FORCED ENTRY		B05	A. THIS WAS INITIAL ORDER - STATUS OF FORCES WAS GIVEN, BUT EVERYONE WAS IN ISB.
				C. AVAILABLE AIRCRAFT - TOTAL NUMBERS WERE APPROXIMATE - S3 AND HIS LNOS DID NOT ANALYZE HOW THESE NUMBERS WOULD RESTRAIN THE BDE'S TIMING.
				F. TACROE SPECIFIED WHERE ONE COULD SHOOT, BUT THIS WAS NOT BROUGHT UP AT MSN ANALYSIS - CA REP DID NOT BRING THIS UP.
				G. BATTLE TRACKING WAS PLANNED, BUT NOT EXECUTED. TRIGGER POINTS FOR AIR REQUESTS NOT IDENTIFIED.
	DEFENSE		F20	LITTLE INTERFACE BDE FSO AND ALO.
	DEFENSE		I30	NO UAV AVAILABLE. S2 DID NOT PROVIDE GOOD BATTLE TRACKING WHICH WOULD HAVE ASSISTED IN TRIGGER POINTS FOR AIR REQUESTS AND TIMING OF BATTLE.
	OFFENSE		B05	UNIT AREAS BEHIND THE LD WERE NOT IDENTIFIED EITHER AS SECTORS OR AAS.
				HELICOPTER AAS, CORRIDORS, ETC. WERE NOT IDENTIFIED UNTIL DAY OF AMB (2 DAYS PRIOR TO ATTACK).
				MANUEVER PLAN WAS ONLY FOR AASLT - NO CONTINGENCY PLAN FOR ABORT.
	OFFENSE		I30	S2 WILL MONITOR UAV ACTIVITIES.
	OFFENSE		B71	FSO DID NOT GO TO THIS LEVEL OF PLANNING.
	FORCED ENTRY		F30	THE ONE SHORTFALL WAS THAT THE BRIGADE NEVER PUBLISHED UPDATED MANUEVER GRAPHICS WHEN THE BATTALION BOUNDRIES CHANGED.
	FORCED ENTRY		B30	NOT REQUIRED OF ADA PLT LDE IN REFERENCE TO CAS.
	DEFENSE		B30	SHOULD KNOW LOCATION OF ADA SITES.

TASK REMARKS COMPARISON, ROTATION SUMMARY

MANUEVER [ALL] PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task# Task Description
Mission O/C

Remarks

	OFFENSE	B30	NO COORDINATION WAS DONE BY ADA LT WITH ALO.
	FORCED ENTRY	Y03B	NO DECISION SUPPORT TEMPLATE MADE, THEREFORE NO DECISION POINTS OR TAIS IDENTIFIED.
			BATTLE TRACKING OF FRIENDLY UNITS EXTREMELY WEAK.
	FORCED ENTRY	F40	F. BN CDR AUTHORIZED FIRES NEAR HAINSVILLE. BDA WAS ASSESSED IN VILLAGE. VIOLATED ROE OF FIRING INTO A NEA.
	OFFENSE	Y03B	BATTLE TRACKING BELOW COMPANY LEVEL WEAK...NO DECISION SUPPORT TEMPLATE, THEREFORE NO DECISION POINTS, TRIGGER POINTS, TAIS, ETC.
M07REM	A2C2 element identify or		develop air control measures (AMTP 71-3, Task 71-3-3012,
	OFFENSE	Y03B	NO TACP PRESENT IN TOC. ALO AND ETAL JUST SAT IN THEIR TRUCK 50 METERS AWAY FROM TOC. TOTALLY USELESS AS A COMBAT MULTIPLIER TO THE BN TF.
	FORCED ENTRY	B05	NOT MANUEVER. AVN LNO WITH S3 AIR CONDUCTED A2C2.
	FORCED ENTRY	B60	A2C2 COMMUNICATION ARCHITECTURE NOT UNDERSTOOD BY ALL!
	DEFENSE	I30	RPV/UAV NOT AVAILABLE.
	DEFENSE	B20	B. AND C.4. ADO WAS UNABLE TO DECONFLICT AIRSPACE AND MINIMIZE CHANCES FOR FRATRICIDE, DUE TO INACCURATE AD FIRE UNITS.
			E.3) ,AND E.7) FAILURE TO IDENTIFY THESE A2C2 MEASURES REDUCED THE EFFECTIVENESS OF EW.
	DEFENSE	B71	A2C2 CELL WAS NOT INTEGRATED DURING THIS PHASE. IT DID PLAN ARMY AVIATION WELL, BUT DID NOT WORK COLLECTIVELY TO RECOGNIZE CONFLICT. A2C2 CELL MEMBERS ARE NOT SURE WHAT THEIR RESPONSIBILITIES ARE. PRIMARY CONCERNS: AVN, FS, CAS, ADA MEMBERS NOT WORKING TOGETHER.
	OFFENSE	B05	AVN/A2CS OC.
	OFFENSE	F20	ALO DOESN'T TALK TO A2C2 OR BCE ELEMENT.
			N/A TO AVN.
	OFFENSE	I30	S2 MAY PROVIDE LOCATIONAL DATA FROM TERRAIN ANALYSIS FOR CERTAIN SITE SELECTION.
	OFFENSE	B20	B. MINIMAL INTERFACE WITH S3 AIR AND ADO.
			C.4) POOR LOCATION REPORTS DUE TO INADEQUATE LAND NAVIGATION SKILLS DEGRADED THE ADO'S ABILITY TO DECONFLICT AIRSPACE.
			E.3) , 7) NEVER PASSED TO SUBORDINATE LEADERS. THERE WERE NO FRIENDLY A/C FRATS DUE TO SAMS, BUT THE HIGH POTENTIAL EXISTED.
	OFFENSE	B71	E. 3) NOT FOR AIR FORCE, VERY WEAK A2C2 CELL AT BDE.
	FORCED ENTRY	F30	N/A AT BN LEVEL.
	FORCED ENTRY	B30	ADA PLT LDR IS A 'RECEIVE ONLY' FOR THIS INFO. THIS WAS NOT DONE DURING THIS PHASE. IT IS USUALLY NOT MONITORED OR PLAYED AT JRTC AT BN LEVEL.
	FORCED ENTRY	Y03B	A2C2 NOT BRIEFED DURING OPORD OR DISPLAYED IN TOC.
M08REM	Determine communication requirements		(AMTP 71-3, Task 71-3-1101)
	FORCED ENTRY	I30	S2 provided MCOO and other terrain products which assisted the SIGO in site selection.

TASK REMARKS COMPARISON, ROTATION SUMMARY

MANUEVER [ALL] PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Task Description	Mission	O/C	Remarks
	FORCED ENTRY	B05		C. RETRANS NOT SET UP BETWEEN ISB PEASON. D. UPON INITIAL ENTRY - COMMO WAS LOST. BDE XO USED TALCE TALKING TO CCT TO GET INFO OF ACTIONS VIA FLS.
	FORCED ENTRY	B60		ALL PLAYERS IN CAS DID NOT UNDERSTAND FLOW OF INFORMATION AND COMMUNICATIONS ARCHITECTURE.
	DEFENSE	B60		NEED TO DEVELOP A STANDARD ARMY - AIR FORCE COMMUNICATIONS WORKSHEET/MATRIX TO DEPICT COMMUNICATIONS REQUIREMENTS, CALLSIGNS, FREQUENCIES, AND INFO FLOW.
	OFFENSE	B05		SIGNAL TEO.
	OFFENSE	B60		ALO AND GROUND FORCE SIGNAL OFFICER ALONG WITH A2C2 STAFF ELEMENTS MUST DEVELOP AND PUBLISH, AS PART OF A GROUND FORCE OPORD, THE AIR-GROUND USE OF A2C2 COMMUNICATIONS ARCHITECTURE BASED ON COMMUNICATIONS REQUIREMENTS IN B. ABOVE.
	FORCED ENTRY	B30		NOT REQUIRED TO BE DONE BY ADA PLT LDR IN REFERENCE TO CAS.
	FORCED ENTRY	B63		B. NO COORDINATION WITH ARMY AVN. D. NOT DONE TO DATE, D+1.
	DEFENSE	B63		D. NOT REQUIRED FOR THIS MISSION.
	OFFENSE	B63		B. COORDINATION WITH ARMY AVN AT HIGHER LEVEL.
	FORCED ENTRY	Y03B		AIR/GROUND COMMUNICATIONS REQUIREMENTS NOT BRIEFED AS PART OF OPORD PARA 5 OR DURING FIRES PARAGRAPH. ALOS. NOT DISCUSSED IN FS ANNEX. ONLY AIR/GROUND COMMO CONSIDERATIONS WERE FOR AIR ASLT OPS (E.G. PZ CTRL FREQS).
M09REM	Establish communications			(AMTP 71-3, Task 71-3-1102)
	FORCED ENTRY	B05		NOT A MANEUVER TASK.
	FORCED ENTRY	B60		MUST BE A STANDARD ON WHO MUST BE IN NETS AND WHAT INFORMATION MUST BE PASSED OVER WHAT NET!
	DEFENSE	B71		ONE INCIDENT INVOLVED A-10S AND AH-64S WORKING TOGETHER ON A ONE HOUR MISSION. FREQS WERE NTO COORDINATED. AH-64S NEVER TALKED TO A-10S. THIS CAN BE FIXED BY INSURING ALL FREQS ARE PROVIDED IN THE AVN TF OPORD.
	DEFENSE	B60		A STANDARD COMMUNICATION PLAN/CHART FOR ARMY - AIR FORCE COMMUNICATIONS WILL MAKE COORDINATION AND INTEGRATION MORE SUCCESSFUL SO SYNCHRONIZATION WILL BE ACHIEVED. "PUT THE RIGHT ROUND ON THE RIGHT TARGET AT THE RIGHT TIME."
	OFFENSE	B05		SIGNAL TEO.
	OFFENSE	B60		A. AND B. SHOULD BE PART OF THE A2C2 COMMUNICATIONS ARCHITECTURE AS DISCUSSED ON PREVIOUS PAGE.
	FORCED ENTRY	B30		IFF IS NOT 'PLAYED' AT JRTC DUE TO MILES RESTRICTIONS.
	FORCED ENTRY	B63		B. TACP (BN LEVEL) IS LOWEST UNIT - DOES NOT MAKE DISTRIBUTION OF 1553S.
	DEFENSE	B63		A. AND B. DONE AT HIGHER LEVEL OF COMMAND - NOT INF BN ALO.
	OFFENSE	B63		A. DONE BY HIGHER. B. USE 1655.
				NEW ITEM SHOULD BE ADDED:

TASK REMARKS COMPARISON, ROTATION SUMMARY

MANUEVER [ALL] PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Task Description	Mission	O/C	Remarks
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COORDINATE FOR FREQUENCY SUPPORT THROUGH DIVISION (ARMY) ASSISTANT DIV SIGNAL OFFICER. EXAMPLE: WHEN USAF ALO HAS PROBLEMS WITH HF FREQS PROPAGATION, THE ARMY FREQ MANAGER CAN HELP.

	FORCED ENTRY	Y03B		NO DISCUSSION OF AIR FORCE FREQS IN COMMAND AND SIGNAL PORTION OF OPORD. DID NOT OBSERVE ALO CONDUCT ABOVE TASKS.
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M10REM Develop Air Defense Artillery control procedures (AMTP 71-3, Task 71-3-3007, 6001,

	FORCED ENTRY	I30		S2 supported ADO in development of b + e.
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	FORCED ENTRY	B05		NOT A MANUEVER TASK.
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	DEFENSE	B20		B. INACCURATE F.U. POSITIOINS REDUCED THE ADO'S ABILITY TO DECONFLICT AIRSPACE.
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C. AND E. INABILITY TO TRACK MRR, INGRESS/EGRESS ROUTES CAUSED AN INEFFICIENT EW SYSTEM.

F. CONSIDERED BUT NOT APPROVED BY AREA AD CDR.

	DEFENSE	B71		ADA NOT WORKING WELL WITH A2C2 CELL/S3 AIR,
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	OFFENSE	B05		ADA SPECIFIC.
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	OFFENSE	F20		ADA
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	OFFENSE	B20		B. T.O. WAS DEVELOPED, BUT DEFENSE DESIGN WAS INACCURATE DUE TO POOR LAND NAVIGATION SKILLS.
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C. DEW WAS INADEQUATE.

D. F.U.S FREQUENTLY DID NOT RECEIVE TIMELY CHANGES,.

E. NEVER PASSED TO SUBORDINATE LEADERS.

F. ATTEMPTED BUT NOT APPROVED BY DIV.

	FORCED ENTRY	F30		NEVER SAW ANY TRACKING OF ADA STATUS BY THE FSO.
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	FORCED ENTRY	B30		THIS WAS NOT DONE.
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	FORCED ENTRY	Y03B		NO CHANGES MADE OR DISSEMINATED CONCERNING ADA STATUS.
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BATTLE TRACKING OF FRIENDLY ADA UNITS WEAK.

NO ROAS OR WFZS IDENTIFIED OR BRIEFED DURING ORDER.

M11REM Coordinate Army Aviation employment (AMTP 71-3, Task 71-3-3011, 3012, 7001; FM

	FORCED ENTRY	I30		LZ selection poor and unconfirmed.
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	FORCED ENTRY	F20		No discussion of using ATK AVN & CAS integrated observed.
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	FORCED ENTRY	B05		CAP AND LIMITATIONS OF AVN A/C CAME LATE IN PLANNING PROCESS (AFTER COA DECISION BRIEF).
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BP FOR ATK HELICOPTERS WAS NEVER IDENTIFIED OR COORD.

	FORCED ENTRY	B71		NOT DONE IN THIS PHASE.
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	DEFENSE	I30		S2 CONTRIBUTES IN A., C.,E., F.1). CAN ALSO PROVIDE INPUT TO F.3) AND F.4)
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BDE AND S2 CAN REQUEST QUICKFIX (EH-60) TO SUPPORT JSEAD AND DID DURING OPERATION. EH-60 , A DIVISION ASSEST, WAS NOT VERY EFFECTIVE.

	DEFENSE	B71		ITEM D. LACK OF CAUSED MANY FRATS.
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	OFFENSE	B05		AVN OC.
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	OFFENSE	I30		HAD TROUBLE DETERMINING LZ WAS CLEAR.
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	OFFENSE	B71		C. NO CROSS-COORDINATION AT BDE LEVEL TO ENSURE ARMY AND AIR FORCE COMMUNICATED.
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H. GOOD SEAD PLAN, WEAK EMPLOYMENT OVERALL.

TASK REMARKS COMPARISON, ROTATION SUMMARY

MANUEVER [ALL] PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task# Task Description

Mission

O/C

Remarks

	FORCED ENTRY	B30	TASK NOT REQUIRED TO BE DONE BY ADA PLT LDR.
M12REM	S2 determine enemy ADA threat (AMTP 71-3, Task 71-3-2003, 2005)		
	FORCED ENTRY	B05	NOT A S3 TASK.
	DEFENSE	I30	OVERLOOKED SA-14 THREAT WHICH REMAINED IN AO. LOST 1 OH-58 AND 1 AH-64.
	OFFENSE	B05	S2/ADA SPECIFIC.
	OFFENSE	I30	PREDICTED ACTIVITIES OF ENEMY ADA AND LOCATIONS WAS WEAK.
	FORCED ENTRY	B30	THE ADA PLT LDR DOES THIS WITH THE S2.
			BOTH SHOULD COLLABERATE, BUT IT WAS NOT DONE VERY WELL THIS MISSION.
	DEFENSE	I10	KNOWS HOW THE ENEMY WILL EMPLOY ADA, BUT DOES NOT CONSIDER IMPORTANCE.
	FORCED ENTRY	Y03B	TARGETING PROCESS NOT INTEGRATED BETWEEN S2/FSO/ALO/S3...S2 DID NOT CREATE A HIGH VALUE TGT LIST. STAFF DID NOT PRODUCE A BN TF HIGH PAYOFF TGT LIST OR ATTACK GUIDANCE.
	FORCED ENTRY	I20	INITIALLY DURING THE PLANNING PROCESS THIS WAS DONE. DURING THE OPERATION THIS WAS SPORADIC AND LEFT TO CHANCE. THE S2 WAS LEFT OUT OF THE INTEL LOOP DURING ACTUAL OPERATION BECAUSE HE DIDN'T ARRIVE TO AO UNTIL HOURS LATER.
			HE RELIED ENTIRELY ON BDE LEVEL INTEL.
	DEFENSE	I20	B. WAS NOT IDENTIFIED AS A PIR ON IR. COMPLETELY UTILIZED ON BDE ASSETS AND NOT ON BN ASSETS AS WELL.
			D. S2/S3/FSO DID NOT WORK TOGETHER ON THIS.
	OFFENSE	Y03B	ALO NOT INVOLVED IN TARGETING PROCESS.
	OFFENSE	I20	B. S2 TEMPLATED LOCATIONS AND BATTALION CDR EMPHASIZED THE NEED PIR TO LOCATE ENEMY ADA ASSETS. SCOUTS AND GROUND TROOPS WERE PLANNED TO RECON NAIS TO FIND THEM IN R&S PLAN.
M13REM	Develop fire support plan (AMTP 71-3, Task 71-3-3009, 3012, 9001, 9002; FM 6-20)		
	OFFENSE	Y03B	ALO NOT INVOLVED IN FIRE SUPPORT PLANNING...NOT INTEGRATED INTO SYNCHRONIZATION MATRIX.
	FORCED ENTRY	F20	Fire support plan was overall adequate.
	FORCED ENTRY	B05	FSO (TASK)
	DEFENSE	B71	DID NOT PLAN FOR JAAT OR BUILD FS PLAN TO SUPPORT IT.
	OFFENSE	B05	FS SPECIFIC.
	FORCED ENTRY	B30	NOT REQUIRED OF ADA PLT LDR.
	OFFENSE	F30	FSO AND FIRE SUPPORT CELL KEPT ABSOLUTELY NO STATUS WITH CRITICAL INFO AND NO MAPBOARD WITH ARTY LOCATIONS, ETC.
	FORCED ENTRY	Y03B	MINIMAL FIRE SPT COORDINATION MEASURES. BDE CHANGED ITS PLAN YET DID NOT UPDTE FIRE SPT COORDINATION MEASURES.
M14REM	Plan JSEAD (Joint Suppression of Enemy Air Defenses) (AMTP 71-3, Task 71-3-2006,		
	FORCED ENTRY	F20	Based on Bde CO,s guidance, SEAD not a big consideration. No Joint assets available for SEAD.
	FORCED ENTRY	B05	ENEMY SITUATION BETWEEN THE ISB AND PEASON WAS NOT ADDRESSED.

TASK REMARKS COMPARISON, ROTATION SUMMARY
 MANUEVER [ALL] PLANNING & PREPARATION TASKS, ALL LEVELS
 ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Task Description	Mission	O/C	Remarks
	DEFENSE		I30	S2 DID NOT TRACK SA-14 THREAT. THERE WAS NO REAL EFFORT TO SUPPRESS ENEMY ADA FOR CAS AND ATK AVN.
	DEFENSE		B71	SEAD WAS NEVER ACTUALLY PLANNED.
	OFFENSE		B05	AVN/S2/FS SPECIFIC.
	OFFENSE		F20	REQUESTED THE FSE AND EV CHANNELS USE OF AIR FORCE PLATFORMS.
	OFFENSE		I30	ADA THREAT NOT FULLY DEVELOPED. SEAD AVAILABLE, PARTICULARLY EW, NOT UNDERSTOOD. LACK OF UNDERSTANDING OF HOW HIGHER CAN ASSIST IN LOCATING EMITTER.
	OFFENSE		B71	GOOD SEAD PLAN/EXECUTION FOR AASLT OPERATION.
	FORCED ENTRY		B30	ADA PLT LDR CAN HELP WITH TARGETING LOCATIONS. IT WAS NOT DONE.
	DEFENSE		F30	JSEAD NORMALLY PLANNED AT BDE NOT BN LEVEL.
	FORCED ENTRY		Y03B	COLLECTION PLAN DID NOT INCLUDE TGT ACQUISITION OF SA-14 TEAMS.
	FORCED ENTRY		I20	A. S2 TEMPLATED DSHK POSITIONS WHICH WAS VERY ACCURATE. NO CAS OPERATIONS AT BN LEVEL WERE INTEGRATED. ARMY AIR WAS THE FOCUS FOR SUPPRESSION. CAS WOULD HAVE BEEN EFFECTIVE IF LRSD AT BDE/CAS AND FSO FOCUSED MORE ON THE TEMPLATE AND TARGETING. AS A RESULT THE DSHKS BROUGHT HEAVY CASUALTIES ON BLUEFOR.
	DEFENSE		I20	SEE TASK NUMBER M12.
	OFFENSE		B40	C. NAD D. BDE PLANNED.
M15REM	Analyze targets	(AMTP 71-3, Task 71-3-2003, 2006, 3004, 9003, 9004; FM 6-20)		
	DEFENSE		I20	B. WHEN THEY TALKED IT WAS NOT EXTENSIVE INFORMATION FLOW ABOUT TARGETING. S2 DID NOT HAVE MUCH INFO, AND NO INFO THAT BDE DIDN'T ALREADY HAVE.
	OFFENSE		Y03B	ALO NOT INVOLVED IN TARGETING PROCESS...DID NOT COORDINATE WITH S2 AT ALL.
	FORCED ENTRY		B05	TARGETING MEETING CONDUCTED. TARGET PRIORITIES IDENTIFIED BY TARGETING CELL. S2 DID NOT PROVIDE ACTUAL GRIDS OF ALL PROBABLE ENEMY LOCATIONS. ALO NOT PRESENT, BUT FSO DETERMINED WHAT TARGETS WE SHOULD ENGAGE.
	DEFENSE		I30	TARGETING EFFORT WAS WEAK. CAS WAS RARELY DIRECTED SOMEWHERE. IN MOST CASES IT WAS TARGETS THEY FOUND.
	OFFENSE		B05	S2/FSO/ALO.
	OFFENSE		F20	MINIMAL COORDINATION BETWEEN FSO AND ALO. NO CHART POSTED IN BDE TOC.
	OFFENSE		I30	TRAGETING EFFORT WEAK; LITTLE ANALYSIS, NO CONFIRMATION ATTEMPTS.
	FORCED ENTRY		B30	NOT REQUIRED OF ADA PLT LDR.
	FORCED ENTRY		I20	ALO DIDN'T SEEM TO BE AN INTEGRATED PART OF OPERATION. WHEN ALO WAS OBSERVED, NO GOOD TARGETS WERE IDENTIFIED. ALO DIDN'T HAVE ANY IDEA OF WHAT TYPE OF ORDINANCE THE A-10 WAS BRINGING.

TASK REMARKS COMPARISON, ROTATION SUMMARY
 MANUEVER [ALL] PLANNING & PREPARATION TASKS, ALL LEVELS
 ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Task Description	Mission	O/C	Remarks
	DEFENSE		Y03B	BN TF DID NOT USE TARGETING PROCESS.
M16REM	Determine ground priority targets (AMTP 71-3, Task 71-3-3005)			
	FORCED ENTRY		B05	FSO IDENTIFIED TARGETS.
	DEFENSE		B03	B.2) SPECIFICALLY FIRE SUPPORT AND ARMY AVIATION.
	DEFENSE		I30	TARGETING PROCESS WAS WEAK.
				NO TARGETING MEETING FROM D-3 TO D+7.
	DEFENSE		B71	DID NOT COORDINATE WITH ATK AVN LNO TO INTEGRATE WITH ATK AVN.
	OFFENSE		B05	FSO DID ALL THE WORK - HE RAN TARGETING MEETING. XO AND S3, ALONG WITH THE OTHER STAFF, 'LISTENED' AS THE FSO TOLD THEM WHAT WE SHOULD TARGET.
	FORCED ENTRY		B30	NOT REQUIRED OF ADA PLT LDR.
	OFFENSE		B30	N/A FOR ADA, THE S3/FSO AND ALO DO THIS.
	FORCED ENTRY		Y03B	TARGETING PROCESS NOT USED...SEE EARLIER COMMENTS ON HVT2, HPTS, ATTACK GUIDANCE.
	FORCED ENTRY		I20	BN S2 DID NOT RECEIVE A HVT LIST FROM BDE NOR DID HE DEVELOP HIS OWN.
	DEFENSE		I20	S2 DID NOT PROVIDE HVT LIST TO S3 OR FSO.
	OFFENSE		Y03B	ALO NOT INTEGRATED INTO STAFF PLANNING PROCESS.
	OFFENSE		I20	S2 DID NOT IDENTIFY HVTs. NONE WERE SENT DOWN FROM BDE!
M17REM	Develop ground scheme of maneuver (AMTP 71-3, Task 71-3-3001, 3002, 3004, 3009)			
	OFFENSE		Y03B	NO BATTLE TRACKING OF FRIENDLY UNITS BY S2.
	FORCED ENTRY		B05	USED GLINT TAPE.
				AVIATORS HAD BPS.
	DEFENSE		F20	7.C. ARMOR/MECH ID ONLY DISCUSSED.
	OFFENSE		B05	GLINT TAPE IN TOP OF TGE HELMETS WERE TO BE THE WAY TO MARK FRIENDLY SOLDIERS - NOT ALL HAD (IT).
				TANKS/VEHICLES NEED MARKING --- BDE NEEDS TO HAVE A BDE STANDARD.
	OFFENSE		F20	MANUEVER GRAPHICS CHANGING ALONG WITH PLAN.
	FORCED ENTRY		F30	S3 FUNCTION.
	FORCED ENTRY		B30	NOT REQUIRED OF ADA PLT LDR WHEN PLANNING FOR CAS.
	DEFENSE		B30	PLT LDR DID NOT DO THIS.
	FORCED ENTRY		Y03B	BDE PLAN CHANGED...UPDTED CONTROL MEASURES NOT DISSEMINATED.
				BATTLE TRACKING OF SCOUTS NONEXISTENT.
	DEFENSE		Y03B	ALO DID VERY POOR JOB OF BATTLE TRACKING FRIENDLY UNITS.
M18REM	Continuously Analyze Intelligence Developments (AMTP 71-3, Task 71-3-2003, 2006)			
	FORCED ENTRY		B05	S2 (TASK)
	DEFENSE		I30	AS STATED BEFORE, TARGETING EFFORT WAS WEAK. ANALYSIS OF INFORMATION IS NOT ALWAYS UP TO PAR. ORGANIC ASSETS NOT UTILIZED CORRECTLY.
	OFFENSE		B05	INTEL SPECIFIC.
	OFFENSE		F20	ALO DID NOT GET OBJECTIVE SKETCHES FROM PILOTS OR IN FLIGHT REPORTS. DID NOT MAINTAIN A LOG ON WHAT HE RECEIVED.
	OFFENSE		I30	ASSETS INITIALLY NOT PROPERLY POSITIONED. LACK OF UNDERSTANDING OF WHAT DIVISION CAN DO. SCOUT PLTS TOOK

TASK REMARKS COMPARISON, ROTATION SUMMARY
MANUEVER [ALL] PLANNING & PREPARATION TASKS, ALL LEVELS
ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Task Description	Mission	O/C	Remarks
				HEAVY LOSSES. TARGETING EFFORT WAS SLOW AND WEAK.
	FORCED ENTRY	Y03B		REPORTING OF ENEMY INFORMATION NOT ADEQUATELY ANALYZED AND DISSEMINATED BY S2.
				NO USE OF TACTICAL INFO OBSERVED BY AIRCRAFT.
	FORCED ENTRY	I20		THIS WAS DONE, BUT ALO WAS NOT A PART OF THIS.
				FSE, S2, AND S3 DO NOT WORK CLOSELY ON TARGETING TRIAD.
	OFFENSE	Y03B		S2 DID NOT UTILIZE ALL AVAILABLE SOURCES OF INFORMATION.
				RELIED PRIMARILY ON SCOUT INFO.
M19REM	Initiate Close Air Support (CAS) request (AMTP 71-3, Task 71-3-3--4, 3009; FM 90-21)			
	FORCED ENTRY	F20		They've been done by ALO. I have not monitored.
	DEFENSE	I30		TARGET DEVELOPMENT WEAK.
	DEFENSE	B71		E. ATO SHOULD BE ACO, AIRSPACE CONTROL ORDER.
				DID NOT SEE ANY REQUESTS FOR CONTROL MEASURES - MRRS SPECIFICALLY.
	OFFENSE	B05		ALO SPECIFIC.
	OFFENSE	F20		D. ALO WRITES AND SENDS PREPLANNED. S3 DOESN'T INTEGRATE.
				FSD ASSISTS.
				F. NO IMMEDIATE REQUESTS SENT.
	FORCED ENTRY	B30		NOT REQUIRED OF ADA PLT LDR.
	FORCED ENTRY	Y03B		NO USE OF CAS BY BN.
M20REM	Determine what air is planned (AMTP 71-3, Task 71-3-3004)			
	FORCED ENTRY	I30		QF asset (EH-60) was not tracked well.
				S2 did not know when they collected nor what they received.
				Did not coordinate specific jamming mission.
	FORCED ENTRY	B05		S3 AIR AND AVN LNO REVIEWED ATO WITH ALO.
	DEFENSE	F20		ALO DOES NOT POST INFO IN TOC OR ANNOUNCE WHEN CAS INBOUND, OFF STATION, ETC.
	OFFENSE	B05		S3 AIR IN CONJUNCTION WITH ALO DETERMINED WHAT AIR WAS AVAILABLE OFF OF THE ACO.
	OFFENSE	I30		MAY SUPPORT S3 IN DETERMINING EQ CAPABILITIES. GROUND EW ORGANIC TO BDE FOR COMMS JAMMING WAS NONOPERATIONAL. AF FOR AIR COMMS JAMMING WAS NOT EFFECTIVE.
	FORCED ENTRY	B30		THIS IS IMPORTANT SO THE ADA PLT LDR CAN PASS THIS INFO TO THE ADA FIRE UNITS AND REDUCE CHANCE OF FRATRICIDE. IT WAS NOT DONE.
	DEFENSE	B40		ADO IS NOT COORDINATING TO GET ATO FROM ALO.
M21REM	Determine what air is available (AMTP 71-3, Task 71-3-3004, 3009)			
	DEFENSE	I30		S2 SHOULD BE CONCERNED WITH AIRCRAFT AVAILABLE, SUCH AS EW OR RECCE.
	OFFENSE	F20		C. AND D. S3 NOT COORDINATED WITH ALO. NO MENTION OF CAS, PRECOORDINATION WITH S2/S3/FSE ON THREAT FROM ADA OR TARGETS TO BE ATTACKED.
	FORCED ENTRY	B30		ADA PLT LDR NEEDS TO KNOW WHAT AND WHEN AIRCRAFT IS COMING.
				IT WAS NOT DONE.
	FORCED ENTRY	Y03B		USE OF USAF AIRCRAFT NO CONSIDERED IN FRIENDLY COA (BN LEVEL).

TASK REMARKS COMPARISON, ROTATION SUMMARY

MANUEVER [ALL] PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Task Description	Mission	O/C	Remarks
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M22REM	Determine target identification procedures (AMTP 71-3, Task 71-3-9004; FM 6-20)			
	DEFENSE	B71		COULD HAVE INTEGRATED ARMY AVN SCOUTS AND AH-64S IN LOCATING/IDENTIFICATION OF TARGETS.
	OFFENSE	B05		ALTHOUGH NOT OBSERVED - I FEEL THIS WAS NOT DONE.
M24REM	Organize for combat (AMTP 71-3, Task 71-3-3001, 3002)			
	FORCED ENTRY	B05		ALO FLEW IN BDE C2 BIRD, THEN LANDED TO LINK UP WITH TAC.
	OFFENSE	B05		ALO SPECIFIC.
	DEFENSE	F30		BOTTOM LINE ON THE ONE MISSION I OBSERVED:
				1. ALO WAS NOT SURE OF STATION TIME.
				2. UNCLEAR ON WHETHER BDE WAS CONTROLLING THE JAAT WITH ATTK AVIATION AND IF A-10S WOULD BE AVAILABLE FOR USE IN THE BN SECTOR.
				3. NO CLEAR CONTROL MEASURES ESTABLISHED BETWEEN A-10S AND ATTK HELOS.
				4. HELOS WERE LATE, NOT ON STATION AND WE NEVER REALLY KNEW IT.
	FORCED ENTRY	Y03B		BN DID NOT HAVE GOOD PLAN FOR GETTING REDUNDANT C2 NODES ON THE GROUND DURING INITIAL AIR ASLT. ALO NOT ON GROUND WITH BN CDR AND FSO. FSO BECAME CASUALTY. BN CDR HAD NO MEANS TO REQUEST OR CONTROL CAS UNTIL HIS ALO ARRIVED ON D+2.
M25REM	Confirm aircraft allocation (AMTP 71-3, Task 71-3-3004, 3009)			
	FORCED ENTRY	B05		ALO PROVIDED INFO ICW S3 AIR/AVN.
	DEFENSE	F20		LITTLE INTERFACE FSO/ALO.
				ALO MAINTAINS NO STATUS BOARD.
	OFFENSE	B05		S3 AIR WITH ALO CONFIRMED A/C AVAILABILITY.
	OFFENSE	F20		NOT DISPLAYED IN TOC OR DISCUSSED WITH FSE OR S3.
	OFFENSE	I30		S2 DETERMINED AVAILABLE RECCE FLIGHTS.
	DEFENSE	F30		CONFUSION BETWEEN BDE AND BN AS TO EXACTLY WHAT IS ON STATION AND WHO IT IS AVAILABLE FOR.
	OFFENSE	B30		PLT LDR SHOULD GET THIS INFORMATION, BUT HE DIDN'T.
	DEFENSE	F40		NOT BRIEFED TO MANUEVER CDR.
M26REM	Integrate CAS with Brigade Synch Matrix (AMTP 71-3, Task 71-3-3004, 3009, 9002; FM			
	FORCED ENTRY	I30		a. S2 in conjunction with staff did not prepare a DST.
				b. S2 No event template prepared to assist this process.
				c. S2 provided accurate templated enemy postions for targeting.
	FORCED ENTRY	B05		SYNCH HAD CAS ON STATION ONLY.
	FORCED ENTRY	B60		UNIT DID NOT INTEGRATE CAS INTO OVERALL BDE SYNCH MATRIX OR PLANNING PROCESS.
				ALO DID NOT ASSIST IN IDENTIFYING TARGETS, AMMO TYPE, AND SYNCHRONIZATION TIMING OF CAS SUPPORT. A GENERIC CAS PLAN WAS DEVELOPED.
	DEFENSE	F20		CAS MENTIONED ON FIRE SUPPORT EXECUTION MATRIX.
				NOT MENTIONED ON BDE EXECUTION CHECKLIST.
				NO BDE SYNCHRONIZATION MATRIX COMPLETED.

TASK REMARKS COMPARISON, ROTATION SUMMARY

MANUEVER [ALL] PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Task Description	Mission	O/C	Remarks
	DEFENSE		I30	S2 AND STAFF DID NOT PREPARE A DST. S2 HAD GOOD TIMELINES FOR ENEMY ATTACK.
	DEFENSE		B20	DID NOTE THAT ARMY AVIATION WAS UNABLE TO COME UP AND WORK A JAAT WITH A-10S. BELIEVE IT WAS DUE TO WEATHER ON D+4. WHEN ALO'S (NIGHT) CAME ON STATION THERE WAS NO ALO IN THE BDE TOC DURING EITHER PERIOD (D+5).
	OFFENSE		B05	SYNCHRONIZATION MATRIX WAS DONE - ONLY TIMING FOR CAS WAS "ON STATION". NO DST DEVELOPED.
	OFFENSE		F20	BDE SYNCHRONIZATION MATRIX NOT DONE.
	OFFENSE		I30	DST NOT DONE. DID NOT PROVIDE GOOD SUPPORT TO THE TARGETING EFFORT.
	OFFENSE		B71	NEVER SYNCHRONIZED THE ATTACK PLAN WITH ARMY AVN.
	FORCED ENTRY		F30	CAS WAS ON STATION TWICE (DURING) THE PERIOD OF D-1 TO D+2. ALO HAD JUST HIT THE GROUND AT 2100 ON D-1 WHEN AI-10S SHOWED UP. THE BN HAD NO TARGETS FOR THEM TO ENGAGE. NEXT STATION TIME ON D+1 WAS CANCELLED DUE TO WEATHER.
	FORCED ENTRY		B30	ADA PLT LDR IS PRESENT AT BN SYNCHRONIZATION MATRIX, BUT TIMING AND SYNCHRONIZATION ISN'T REQUIRED. AIR DEFENSE PLT LDR ONLY NEEDS INFO FROM TASK M25.
	OFFENSE		B30	N/A FOR ADA.
	FORCED ENTRY		Y03B	NO BN DST.
	FORCED ENTRY		I20	DID NOT SEE A DST AT BN OR BDE!
	DEFENSE		Y03B	NO DST OR OTHER SYNCHRONIZATION TOOLS USED.
	OFFENSE		Y03B	NO DST PRODUCED - NO OTHER SYNCHRONIZATION TOOLS USED.
M27REM	Fire Support Element integrates CAS (AMTP 71-3, Task 71-3-3004, 3009, 9002; FM 6-20)			
	OFFENSE		Y03B	CAS NOT INTEGRATED INTO FIRE SUPPORT PLAN. NOT BRIEFED DURING OPORD.
	FORCED ENTRY		B05	FSO (TASK)
	FORCED ENTRY		F20	NO CAS USED.
	OFFENSE		B05	FS SPECIFIC.
	OFFENSE		F20	E. NO FS REHEARSAL CONDUCTED. NOT CONSIDERED DURING MANUEVER PLANNING.
	FORCED ENTRY		B30	NOT REQUIRED OF ADA PLT LDR.
	OFFENSE		B30	N/A FOR ADA.
M28REM	Confirm airspace control measures (AMTP 71-3, Task 71-3-3012, 3013, 6002, 7001,			
	FORCED ENTRY		B05	S3 AIR/AVN LNO/ALO WORKED A2C2. NO AIRSPACE CONTROL ORDER PUT OUT BY BDE.
	DEFENSE		F20	NO AIRSPACE COORDINATION MEASURES , FORMAL OR INFORMAL, PLANNED.
	DEFENSE		B20	A. ADO WAS REVIEWING ALO'S FORM PERTINENT INFO. F. ALO NEVER DID SEE ADO FOR ADA FIRE UNIT POSITIONS. ACTUAL ADA F.U. POSITIONS WERE ROUTINELY INACCURATE.
	OFFENSE		B05	AVN SPECIFIC.
	OFFENSE		B20	A. ADO WAS READING ACO'S. F. DISSEMINATION OF WEAPONS CONTROL STATUS WAS POOR DUE TO PHYSICAL LOCATION OF ADO SECTION WITHIN THE BDE TOC.

TASK REMARKS COMPARISON, ROTATION SUMMARY

MANUEVER [ALL] PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task#	Task Description	Mission	O/C	Remarks
	FORCED ENTRY	B30		THIS IS NOT DONE AT BN LEVEL. IT IS USUALLY DONE AT BRIGADE LEVEL AND ABOVE. IF A SPECIAL SITUATION COMES ABOUT, I.E. A WEAPONS 'FREE' ZONE, THEN IT IS IMPORTANT.
	DEFENSE	B30		NOT DONE AT BN LEVEL.
	OFFENSE	B30		NO FACE-TO-FACE COORDINATION WITH ALO WAS DONE BY ADA PLT LDR.
M29REM	Confirm communications	(AMTP 71-3, Task 71-3-1102)		
	OFFENSE	F40		AIR FORCE SAYS SOME REGULATION PREVENTS THEM FROM GIVING AUTHENTICATION TABLES TO FOS DURING PEACETIME.
	FORCED ENTRY	B05		ALO TASK.
	FORCED ENTRY	B60		A DIAGRAM/MATRIX MUST BE DEVELOPED AND INTEGRATED INTO THE BDE TF NET ARCHITECTURE.
				ARMY PERSONNEL DO NOT UNDERSTAND COMMUNICATIONS STRUCTURE OF AF NETS AND ALO MUST MAKE IT CLEAR THAT THERE ARE PRIMARY AND BACK-UP/ALTERNATE AVAILABLE.
				ALO/BDE SIGO/AVN MUST HAVE A MEETING TO DISCUSS A2C2 COMMUNICATIONS ARCHITECTURE AND PLAN!
	DEFENSE	B03		A. SHOULD ALO/ATO BE ACO/ATO?
	DEFENSE	B60		A STANDARD AIR - GROUND COMMUNICATION MATRIX SHOULD BE DEVELOPED AND DOCTRINALLY IMPLEMENTED. A WORKSHEET WITH ALL REQUIRED CAS COMMUNICATION REQUIREMENTS FOR GROUND AND AIR FORCES WOULD ENSURE CDR'S KNOWLEDGE OF CAS C3 ARCHITECTURE.
	OFFENSE	B05		SIGO/ALO SPECIFIC.
	OFFENSE	B71		COORDINATION FOR COMMUNICATIONS BETWEEN ARMY AVN AND AF WAS WEAK.
	OFFENSE	B60		NOT ADEQUATE: AGAIN MOST ALO, TALO, FS, ADA, AVN, AND SIGNAL STAFF FUNCTIONAL AREAS NOT INVOLVED IN MAKING A2C2 ARCHITECTURE WORK.
				SEE PLANNING TASK 71-3-1101.
	FORCED ENTRY	B30		THIS IS NOT APPLICABLE BECAUSE IFF PROCEDURES ARE NOT TESTED OR USED AT JRTC DUE TO THE MILES SYSTEM. IF THE STINGER/AVENGER MILES INTEGRATES THE IFF SYSTEM, THEN TASK M29B WILL BE APPLICABLE.
	FORCED ENTRY	B63		B. HAS 1655 NOT 1553.
	DEFENSE	B63		A. NO ATO, DEFENSE MISSION, HOWEVER, USAF IS GOING TO STAND DOWN ANYWAY BEFORE MISSION.
				B. USING 1655S.
				C. 0600 AND 1800 COMMO CHECKS PERFORMED.
	OFFENSE	B30		N/A FOR ADA.
	OFFENSE	B63		A. ATO PASSED VERBALLY OVER RADIO.
				B. 1655 NOT 1553.
M30REM	Deconflict airspace	(AMTP 71-3, Task 71-3-3012, 3013, 6002, 7001, 9002; FM 100-103)		
	FORCED ENTRY	I30		e.5 S2 would be involved in UAV coordination, however there is no UAV in use during this rotation.
	FORCED ENTRY	B20		THE LACK OF MAP RECON GRID COORDINATES FOR TF 1-502 DEGRADED THE ADO'S ABILITY TO DECONFLICT AD FIRES. THE INABILITY TO FINALIZE ACCURATE MOVEMENT TIMES/CHALKS

TASK REMARKS COMPARISON, ROTATION SUMMARY

MANUEVER [ALL] PLANNING & PREPARATION TASKS, ALL LEVELS

ROTATION: J945, UNIT: All, MISSION: All, TRAINING DAY: All, O/C: All

Task# Task Description

Mission

O/C

Remarks

			HINDERED THE ADO'S ABILITY TO UNFOLD THE AIR DEFENSE PLAN IN SUPPORT OF THE BDE PLAN.
DEFENSE	I30		UAV NOT USED/AVAILABLE. S2 WOULD BE INVOLVED IN PLANNING IF A UAV WAS AVAILABLE.
DEFENSE	B20		E.4) NO EXCHANGE OF INFO BETWEEN ALO AND ADO. POSITIONING IN TOC IS A SIGNIFICANT CONTRIBUTOR TO THIS.
DEFENSE	B03		ARMY AVN ONLY.
OFFENSE	B05		A2C2/AVN OC SPECIFIC.
OFFENSE	I30		S2 WILL MONITOR UAV ACTIVITIES.
OFFENSE	B20		B. HOWEVER AIR DEFENSE POSITIONS WERE INACCURATE, COMBINED WITH POOR EW, SET UP THE CONDITIONS FOR FRATRICIDE.
			E. ADA WAS INTEGRATED INTO PLAN, HOWEVER GS ADA ASSETS WERE NOT ADEQUATELY DECONFLICTED WHICH RESULTED IN AD FIRE UNITS BEING CLUMPED TOGETHER.
OFFENSE	B71		D. DID NOT SUBMIT MRR FOR AF INGRESS/EGRESS, NOT INTEGRATED AT ALL.
FORCED ENTRY	F30		UNIT DID NOT GET A CHANCE TO DO THIS AT BN LEVEL.
FORCED ENTRY	B30		NOT DONE AT BN LEVEL AT THE JRTC.
DEFENSE	B30		NOT DONE AT BN LEVEL.
OFFENSE	B30		N/A FOR BN LEVEL ADA.
OFFENSE	Y03B		NO AIRSPACE MANAGEMENT CONDUCTED AT BN TF LEVEL.